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BETTER FRUIT

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NUMBER 7

HOMESEEEKERS' NUMBER



WHERE FRUIT TREES ENRICH THE SUNNY VALLEYS

FEATURES IN THIS ISSUE:

Call of the Northwest for Settlers
Harvesting Profits From Walnuts
Fine Record With Raspberries

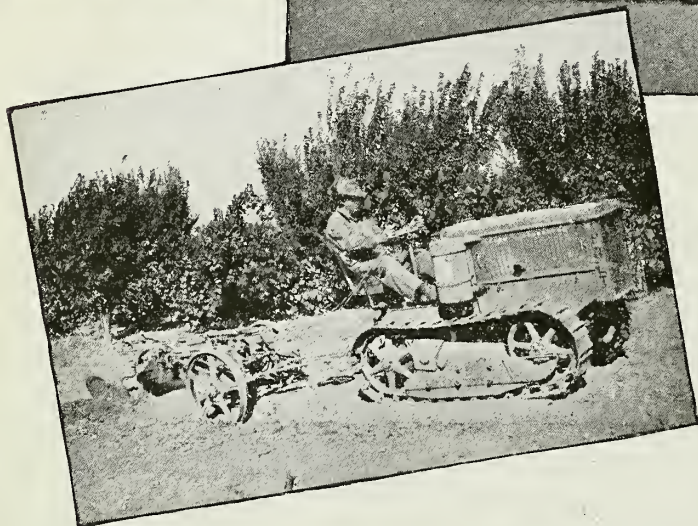
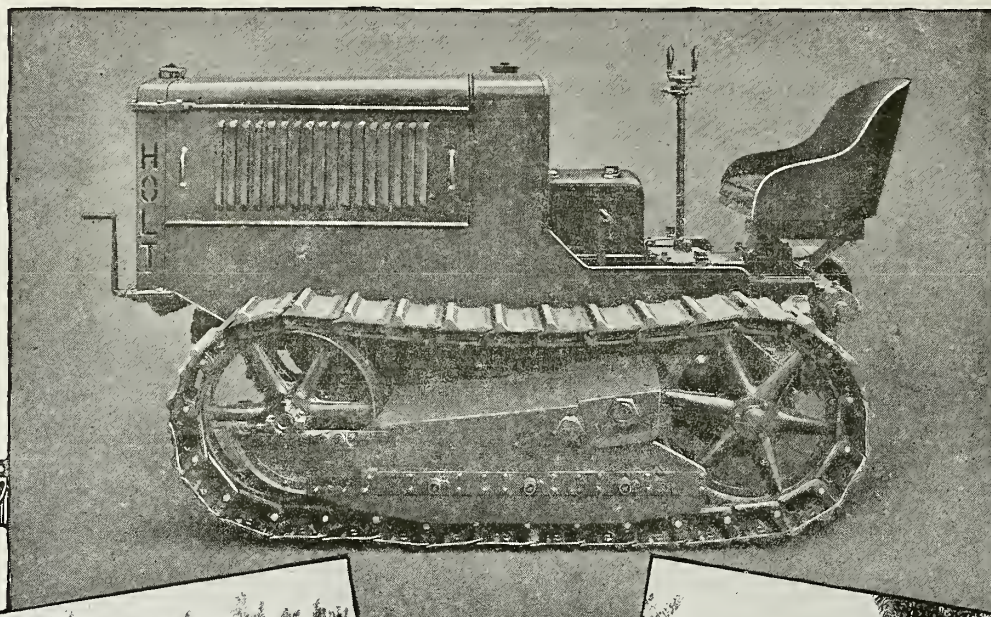
Homesteaders in the Fruit Game

Development Problem of Oregon
Boxed Apple Situation in Review
Improvement in Orchard Management

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BETTER FRUIT

Pioneer Horticultural Journal of the Pacific Northwest

Entered as second-class matter April 22, 1918, at the Postoffice at Portland, Oregon, under act of Congress of March 3, 1879

VOLUME XVI

PORTLAND, OREGON, JANUARY, 1922

NUMBER 7

Call of The Northwest for Settlers

By THE EDITOR

VISIT any state of the great empire of the Northwest and its residents will proudly point out to you the wonder spots, where industrious communities have transformed the virgin valley or sagebrush plain into a veritable garden of fruitfulness. Such tracts, no one of which has ever yet reached the limit of its productivity, strike into amazement the easterner, uneducated as to the resources and the productiveness of these fertile empires.

To the resident of Idaho, or Washington or Oregon this is highly gratifying, but—

Whatever the reader may have thought from the opening sentences, this is no high-flown, eulogistic discourse on attractions and resources of the Northwest. It is a little study of what the Northwest most seriously lacks. A frank admission of this great need, if you please, coupled with

Far the greater portion of residents now living in the Pacific Northwest came from a former home in the East or Middle West. The writer believes that this section's greatest need is that of drawing thousands upon thousands more settlers here from the same sources. In fact, it is pointed out, real progressive development of the Northwest vitally depends upon such further immigration. There is no attempt to catalogue the attractions and opportunities the Northwest offers. Instead there is set up the contrast between land ownership conditions here and in the East. There is tied in the urgent plea that every homeseeker study these contrasting conditions—then base decision on his own findings.

appeal to the men and women who might profit most by meeting this need.

Sure, it fans up real gratification when Idaho points to its Payette Valley, or Washington to its Wenatchee country or Oregon to its Hood River district. But—here's that same "but" again—there are not enough of them.

It is senseless and futile to attempt concealment of the outstanding vital need of the Pacific Northwest—the need for more settlers, that many more sections may blossom and flourish under intensive cultivation.

Were it not for an equally important corollary it would be useless to devote this space in *Better Fruit* to discussion of this matter. There is, however, this perfectly patent corollary—that in the central and eastern states there are thousands of farmers, renters and workers who would profit in high degree by locating themselves on waiting lands of the Northwest.

If proof were wanted that those thousands of families now doing no better than win a living in the East could advance themselves toward financial independence by locating out here, such proof could be

furnished in abundance by hundreds of our subscribers. This number carries a mere smattering of available reassurance on this point.

For the eastern homeseeker into whose hands this journal may fall and who may want more proof of the Northwest's advantages or more details of its resources, it is only necessary to write the state officials who have articles in this issue, to offices of the great railroads serving this territory, or to individual chambers of commerce or commercial clubs.

This article will also leave it to others to tell the appeal of the Northwest's attractive climate; its healthfulness; its pure,

Personal Message

From Governor L. F.
Hart of Washington

I can imagine no more contentment nor independence than that which comes to the farmer who builds his future on the diversified crop, and has only a small acreage which he and his family can till and cultivate alone. Thus is his market assured, and he need have no fear of loss of crop through failure to secure help at the harvesting season.

Berries, fruit, a little grain and alfalfa, and cows and chickens—there is no better state than Washington for such a farm, and life holds no finer occupation or chance for happiness.

Personal Message

From Governor Ben
Olcott of Oregon

It is with pleasure I join in issuing, through your valuable magazine, an invitation to people of the East seeking new locations, to give careful and earnest consideration to the attractions and resources of the states of the Pacific Northwest. Great opportunities lie in these states. We have wonderful horticultural sections here, far-famed for their fruit and berry production. We have wonderful agricultural and industrial resources.

I would advise, however, that the easterner who intends to invest in any of our western states, come here and see for himself and be thoroughly satisfied as to what he is doing before he actually invests his money in land.

sparkling water; its lures for the hunter and fisherman, and its mountain, lake and seaside resorts, all seldom more distant than a short motor drive.

TO THE small farmer of the east, to the renter on high priced land and to the man of small means who wishes a home of his own on the land, it is both a pleasure and a duty to point out the Northwest's pre-eminent claim to consideration.

No place in the domain of this United States is there a more promising or attractive opportunity for the man of small means to win a home on the land than in our northwestern states. This is a broad statement, but he who challenges it takes a rather hopeless end of the debate.

In the first place, here in the Northwest it does not require 160 acres, or 80 acres, or even 40 acres to insure a good living and something more. The visitor to any intensively developed section can readily verify this fact. He will have no trouble at all in finding families happily located on 20-acre tracts, on 10-acre—yes, right down to two-acre and one-acre tracts. He will have not the least trouble in finding families that are more prosperous and contented on 10 acre tracts than the majority of renters on a quarter section of 160 acres on the middle western plains.

Partially developed lands of the older valleys; logged-off tracts in the regions of abundant rainfall, and small farms in the irrigated sections await the homeseeker of very moderate means. What opportunity has the renter of Iowa or Illinois, farming land priced at \$300 to \$500 an acre, to become a land owner? Mighty little, if you are perfectly frank in your answer.

Bring that eastern renter with his \$2500 or more of savings to the Northwest and there isn't a thing in the world to prevent him from becoming a ranch owner at once. Of course, he is not expected to purchase a highly developed tract. It is decidedly better that he obtain such land as he can readily manage and develop it intensively himself.

Picture the unfortunate renter on the \$400 land today, trying to cover a cash rental of \$40 to \$60 an acre—with corn selling at 25 cents a bushel and oats at 20 cents—and have something left for himself. To pay a \$50 rental requires 200 bushels of corn. A fine chance for profit after paying the landlord! A wonderful future ahead, indeed!

Picture that same renter as paying down \$2500 or \$3000 on 20 acres of good land in a valley of the Northwest. Suppose he is an earnest and faithful worker and spends 15 years in paying any balance and developing a \$15,000 ranch of his land. *Better Fruit* readers know he can do this. They know, too, that it would be his own fault if he and his family did not enjoy a lot of comforts of life while accomplishing this development. Any number of

them have been achieving just such a thing themselves.

THIS picture is conservatively drawn, Mr. Homeseeker. Nothing would give the writer more pleasure than to have you check up on it. Your findings would absolutely remove any doubts that may now trouble your mind.

Since there is this contrast in opportunities for the man of moderate means between the East and the Northwest, why is it, many will ask, that more settlers do not flock to our lands? The answer is simply that they do not know of the opportunity that this region offers them. Quite aside from the reflex benefits in meeting the greatest need of the Northwest, people of the fruit industry can do no kindlier service for their brothers of the Middle West and East than invite their earnest attention to advantages and opportunities of this region.

Mr. Homeseeker of the East, the writer urges upon you the supreme test in picking a new location: learn how effectively the region has held its immigrants.

As a newspaperman in a middle western state, dissatisfied with conditions there, the writer made this test for himself about a

decade ago. From what states were the smallest numbers of our restless emigrants returning, dissatisfied, he asked. The answer he easily obtained from his paper's mailing list and his own wide acquaintance-ship over the county.

It would be almost malicious libel to name those states from which large numbers of "former citizens" were hurrying back in disgust. The test showed, absolutely, that fewest came back from states of the Pacific Northwest. In truth, it was hard to find any who had returned from these states because dissatisfied. This simple little test immediately solved the writer's moving problem—solved it rightly, thank you.

It must be added that conditions here have greatly improved since then. Every prospective homeseeker is urged to make this same test for himself. He is urged to come in person, if he wishes and can, to study the Northwest's need for more settlers and the future it holds for them. Boom days have long since departed, and he may readily learn just what satisfaction and reward the Northwest offers him in return for his money, his efforts and his time.

Harvesting Profits From Walnuts



Here is a view in Charles Trunk's beautiful, thrifty walnut grove, at Dundee, Oregon

SOME of the best walnut groves of the state of Oregon—the Northwest, it might be said—are located at Dundee, and those growers who have the older and larger trees are enthusiastic over walnut growing. Results obtained with their own trees have convinced them that walnuts are a crop deserving more consideration.

Dean of the Dundee growers is Charles Trunk, who has plantings totaling 70 acres, 38 acres of which are of bearing age, and

never loses an opportunity to urge the planting of more walnuts. He began with the planting of a 10-acre tract in 1906 and has been in the game ever since. Walnuts have paid him well; so well that he kept increasing plantings, and a year ago purchased 12 acres of trees.

Here is what Mr. Trunk thinks about the wisdom of planting walnuts, providing,

(Continued on page 23)

Idaho, Empire of Promise

By FREDERICK V. FISHER

Manager Idaho Development League

IDAHO on the school maps looks like a wedge between the giant state of Montana and the Inland Empire of Washington and Oregon. But, in fact, Idaho is twice the size of Pennsylvania, equal to New England and New York and larger than any eastern or middle western state. It stretches north and south from the snow line of Canada to the deserts of Nevada, close to the gates of California. It takes the rumbling overland train a day and night to cross Idaho from the coal mines of Wyoming to the cattle ranges of Eastern Oregon.

It is a scenic wonderland. In the north, amid the pines and the Couer d'Alenes, is the greatest lake country of America. In its heart is the vast wheat belt where, at one little way station in 1921 they shipped 1,000,000 bushels. Looking down on both north and south are the snowy summits and jagged outlines of these Alps of America, the Saw Tooths. On one side is the Grand Canyon of the Snake, through them flows the picturesque Salmon and at their feet lies the weirdest place in all North America, the Valley of the Moon with its 63 extinct volcanoes and strange ice caves. The Yellowstone is its portal, the far winding Snake its life blood, the thundering Shoshone out-rivalling Niagara, its expression of power and possibilities.

Idaho is the third largest water-power state in the union, with only one-seventh of it developed. Idaho is best fitted of any state for dairying. Here is the land of contented cows if there ever was any. Here are found mild winters, good feed, condenseries close at hand, assured markets. One of the largest cheese companies in the land has just offered to buy all the first class cheese that Idaho can produce. In the north are the vast forests of commercial lumber, with the largest stretch of white pine in America; wheat in the center; mines in the mountains with limitless pastures to the south and then, above all, wonderful fruit country of the valley of the Snake river.

In fruit, Idaho excels. Much rare fruit marketed in the past under fanciful names as coming from other states, grew in the rare climate and warm sunshine of the clear skies of Idaho. Delicious Apples from the Mesa farms are noted, peaches that drip sweetness, small fruits with fine flavor and then those superb things, the Idaho prunes.

Irrigation in the south assures the crop, no matter whether the skies are favorable or not. With the constant opening of new irrigated tracts and the coming great project of American Falls a vast realm is opening to the homeseeker and grower of fruits.

Idaho is pre-eminently a home state. Good

roads, rapidly building, lead to small towns and large ones, with all the conveniences of civilization. Her educational system is unsurpassed, starting with the grammar schools and reaching clear to a strong well manned State University.

Idaho has the climate, the soil, the resources, the civilization, the opportunities, all she needs is folks—folks with red blood and life ahead of them, who love the open, ready to work and grow up with the state and reap in after years the finest results of life in home, plenty and neighborliness and all the best virtues and blessings of America at her best. Come see Idaho. Come live in Idaho.

Finding Contentment

By T. D. HUSSEY

Clark's Fork, Idaho

ON SEPTEMBER 1, 1919, my wife and I left Kansas City, Mo., in our "flivver" for the "wild and woolly" West, as we supposed to find it. We had decided that it was a life of too much monotony to live in a city, daily viewing only artificial life.

We drove through Cheyenne and Boise and then over the Mackenzie Pass to Eugene, Oregon. Then we visited Portland and Spokane and finally landed in Bonner county, in the Panhandle of Idaho.

It certainly was a grand sight to see the fine varieties of fruit here, especially the apples. As a non-irrigated country, this appealed to us and we acquired 80 acres, of which 20 acres is in Delicious, Winter Banana and Winesap apples, nine years old. The trees had been cultivated only three years and then left in clover and timothy sod. There had been no pruning and spraying and consequently had been no fruit.

In the spring of 1920 I pruned and plowed and disced until the orchard was in good state of cultivation. I sowed the land to wheat in the fall of 1920 and to clover in the spring of 1921.

In the fall of 1920 I got 16 boxes of apples. This year, the crop was 310 boxes and, in addition, I made 125 gallons of cider. I have obtained a good terminal growth, good foliage and color. I will plow the clover under next spring.

This is my first attempt to grow fruit commercially, but if other fellows can I can. Our small fruit has been a money-maker. Besides what we have sold we have 300 quarts of home-grown fruit in the cellar.

We have a cow, poultry and pigs, God's own sunshine, pure mountain air, "sparkling" water 18 feet from the surface, and the world for a market for good fruit. We have the thought of achievement in a good cause, which is something satisfying.

It is my motto to always be a booster, or move. If you are interested in fruit subscribe for *Better Fruit*. It has helped me wonderfully.

Opportunities for Growers

By J. GRANT HINKLE

Secretary of State and Commissioner of Immigration, State of Washington

THE problems that confront the American people, when the last analysis is given, are brought about by the facts that mines become exhausted, gas wells cease flowing, oil wells likewise fail, forests are hewn down and but little attention is paid to reforestation. These facts place the problem directly up to us as to what shall take the place of these resources when they are gone. The Northwest is particularly fortunate in having large areas of land, and abundant water for irrigating the arid portions.

It has been discovered that the most reliable and productive results may be obtained from fruit and berry culture, for the reason that there is an ever increasing market for these products. The Northwest is the ideal spot for the highest development of fruit raising.

Every year the problem of taxation becomes more and more serious. At the present time it is pretty generally considered that real estate is bearing all of the burden that can possibly be carried and that anything additional will result in confiscation. In a recent convention of the secretaries of state at Helena, Montana, one of the number forcibly illustrated our difficulties in the Northwest with our taxing problems.

This speaker said: "Your states are four times the size of my state, yet your people are ambitious and want everything under the sun that we of hundreds of years older commonwealths have, and even now almost all of your states have more miles of hard surfaced roads than we have in my state. Your schools are well up to the top when measured by educational standards. There are but two propositions for you. One is to cut down on your good schools and good roads program, which you are not likely to do, or, get about 5,000,000 of the people in the East to locate in each of your states and develop your resources, thus putting their shoulders under the burden. We have six times your population and one-fourth the area and it does not seem strange to me to hear you gentlemen report that your taxation problems are a real burden."

Everyone can find truth in this man's statement. Fortunately for us, the states of the Northwest are able to absorb many more millions of people when our irrigation systems make it possible to develop more lands.

No other industry is quite so inviting in the Northwest as the berry and fruit culture. Our products are already sought in the leading markets of the world and command the highest prices. The Northwest invites the man who can make trees and vines grow, blossom and bear fruit, where nothing grew before.

Homesteaders in the Fruit Game

By FLORA A. MORGENSEN

Mosier, Oregon

SOMETHING like 20 years ago my husband and I found it necessary to move to Hood River for the summer. We moved there in March and were there during the strawberry season, staying through the long bright summer and until the rosy cheeked apples were harvested.

Hood River was then famous for its strawberries as it now is for its apples. During the summer my husband, in these surroundings, became enthused over fruit growing. While on a business trip into the big wheat country, 100 miles further out, he discussed the possibilities of growing fruit for local consumption, somewhere in the wheat belt.

"It can't be done," the wheat men said, "and, besides, wheat growers don't buy fruit."

"It can be done and I will show you," said my husband.

The result was that before he returned that boy husband of mine had filed on 160 acres of land in the edge of the wheat belt, intending to show the wheat men that he could grow and market fruit among them at a profit. I was aghast. Neither of us knew anything about farm life and had certainly not included it in our plans for the future.

I had in my possession, however, a copy of an excellent farm journal and there were also in the house we were renting piles of back numbers of several fruit growers' magazines. Of these I selected copies of *Better Fruit* and one other standard magazine, for which we subscribed, and early in November of that year we moved out on our homestead, with youth, inexperience and determination as our chief assets.

We decided to build slowly, but well, and the house was ready to occupy early in December. A level place was then cleared and set to strawberries. Next a large garden spot was cleared, as we would depend largely on the sale of vegetables the first year. Then, as land could be cleared, it was set to raspberries, blackberries, loganberries, currants, gooseberries, etc. These are early bearers and would be furnishing us with cash, we figured, while we were waiting for the orchard to begin bearing. The orchard we set out as rapidly as possible.

WE WERE pioneers in the fruit industry. Experience was our teacher so we tried out varieties very carefully, selecting those best suited to our location and market. We planted largely peach, pear, cherry, and apple trees, with a good sprinkling of plums, prunes and apricots. Our location seemed especially suited for

grapes, so one hillside was set to early and late varieties, while row on row of beehives were added with excellent results.

The second year we had to begin hiring help to handle our berry crop. Our packages were standard and up-to-date. We succeeded in finding not only a market locally, but our business circle widened each season. At times we were fairly mobbed by patrons. Some year's crops were engaged practically a year in advance. We could not supply the demand.

Products of our vines and trees were winning blue ribbons at all the fairs in the country, and our farm was known for a good many miles around by its well-selected name. Of course we had ups and downs, for this is no fanciful sketch, but as one after another of our neighbors made final proof on their homesteads, in order to borrow money to support their families, we were making improvements, building our home and something more than supporting ourselves, in the little sheltered valley at the foot of the wheat fields.

The love of nature and of making beautiful things grow is eternal in the hearts of some, and we are still in the game—back in the land of the big red apples, which go to the markets of the world. And we have found it a good game.

Model Packing Plant

WHAT is credited with being one of the largest and most efficient packing and storage plants in the world is that of the Pehastin Fruit Growers' Association, at Pehastin, Wash., a unit of the Skookum Packers' Association.

The plant is electrically equipped. Nine electrically operated graders were in operation when packing was in full swing. Conveyors run by electricity carry the apples from the receiving platforms to the storage rooms and other conveyors transport them out to the graders. After the apples are packed they are similarly carried to the storage rooms again, or to the loading platform if destined for immediate shipment.

During the busy season the plant employed a force of 225 persons and easily handled 7500 boxes, or 10 carloads of apples in a 10-hour day. There are two distinct units to the plant, one devoted to packing and common storage and the other to cold storage and the grading department. The financing, planning and construction of this model plant is credited largely to the efforts of J. A. Warman, who was manager of the association until elected president of the Skookum Packers' Association.

One other valuable feature of the big

plant is a dormitory, called Skookum hall, with dining room in connection, where 125 or more employes usually take their meals. The dormitory provides accommodations for 160 single employes. In addition there is an apartment building, where 25 married couples may live and keep house.

New Walnut Markets

RESULTS of this season's work in marketing walnuts offer a most promising outlook to the Northwest grower. Early in the season the Oregon growers met and decided to use standard grades in handling the crop, and for the first time Oregon walnuts have been put on the market in large quantities under uniform grading rules.

Prices were opened at the same time the California growers named prices, but at a two cent advance over California prices on the best grades and a cent on the lower grades. Practically the entire tonnage was sold within a week, with buyers still clamoring for more. Though the volume of this year's crop was not larger than to supply the immediate Oregon demand, the Oregon Growers' Association—with the intent of feeling out new markets for future sales—sent samples of the nuts to representatives in the east and in England.

The returns from these samples give a most encouraging outlook to the walnut growers. A New York representative to whom samples were sent said that the nuts were of the finest quality he had ever seen and that he could use six cars of them if they could be supplied. Other brokers asked for lots of one and two cars. A middle west man, in order to be sure that he will get some of the Oregon Mistland nuts, has already put in his order for a car of the 1922 crop.

English representatives are desirous of securing a substantial tonnage, preferring the Oregon Franquettes to those which they obtain in France on account of the high quality of the grade and pack.

Standardized grading is one of the most important factors in the marketing of the product and, though this season's crop was easy to dispose of, the association is laying plans which will aid in marketing a larger crop in competition with other large producing centers which furnish nuts to the same markets.

An ordinary cream separator may be used to clarify apple cider on the farm, experts have disclosed. The separator may clog up a bit, but need only be cleaned out occasionally to insure a clear product.

▲ ▲ ▲

Of 753 eastern farmers who replied to a request of the Department of Agriculture that they tell what they had found the chief advantage in owning a motor truck, 91 per cent replied, "saving time."

Improvement in Orchard Management

By GORDON G. BROWN

Horticulturist at Hood River Branch Experiment Station

FOR A number of years the Hood River branch experiment station has been conducting a searching investigation of the apple orchard business in the Hood River Valley. Comparatively few statistics were available which definitely indicated the economic trend towards which the fruit growers were moving. The study has been to determine "who's who" in the apple business and, as far as possible and practicable, the underlying causes which are associated with a high standard of success upon the one hand, and only mediocre or poor results upon the other.

The aim has been to pick out the important factors in orchard management such as pruning, thinning, propping, tillage, irrigation and fertilizer practices and to study these with reference to differences in net results as above indicated. The difference in time spent in these operations and in the case of spraying, for instance, the amount of material applied has been used largely as a working basis. Average costs per acre and per box in many cases have been determined on a six-year basis. This includes average costs for the period 1913 to 1918, inclusive.

The period mentioned is one which is naturally divided into two distinct epochs: The one from 1913-1915, inclusive, and the other from 1916-1918, inclusive. The former is designated as the First period and the latter as the Second period. The former period is identified by clean cultivation practices, lack of cover or shade crops and fertilizers. An inadequate spray program also prevailed. Tree growth during this period was inadequate; yields were small; dry rot, fruit pit and small apples resulted.

The Second period marks several distinct changes in management for the better. Nitrate of soda as a fertilizer came into general use. A three to five pound application furnished immediately available nitrogen which had been so completely depleted by clean tillage. The use of alfalfa, vetch and clover became general. An improved spray program, accompanied by better equipment, also featured the Second period.

As a result of an improved program yields increased 46 percent. The percentage of extra fancy fruit increased from 34.6 to 47.0 or 12.4 percent. A corresponding increase in gross value of fruit, net to the grower, by this selling agent also resulted.

The writer has divided the orchards into groups upon the basis of merit. This grouping relates to a six-year average performance, as related to yields in packed boxes per acre (exclusive of culls and cook-

Even horticulturists and growers are likely to overlook the fact that important progress has been made in recent years in the more scientific management of commercial orchards of the Northwest. In making a study of the orchard management in the Hood River Valley, with particular reference to yields, grades and value of fruit, Gordon G. Brown has done a service of real value to every Northwestern apple grower. In setting forth the results of his study, as done in this article, he has rendered an additional service of great value. The grower who will carefully mull the facts here presented, comparing with results in his own orchard, is sure to obtain pointers of value as a guide for his own practices in the future.

ers); percentage of extra fancy and four-tier sizes and gross value of fruit per acre. The groups are arranged as follows:

Yields per acre—Group 1, 386 boxes; 2, 257 boxes; 3, 186 boxes.

Percentage of extra fancy—Group 1, 55.0 per cent; 2, 44.9 per cent; 3, 35.3 per cent.

Percentage of four-tier sizes—Group 1, 65.0 per cent; 2, 51.5 per cent; 3, 33.0 per cent.

Gross annual value of fruit per acre—Group 1, \$461; 2, \$290; 3, \$204.

THE reader will at once note great differences in the average performance of the different orchards as shown in the above grouping. The difference of \$257 per acre, gross value, between Groups 1 and 3 is most striking.

What are the associated causes? In the first place, the writer wishes to make plain that the orchards in all groups are quite representative of the section. The average age is over 15 years. Inferior orchards subjected to gross neglect and evidently inferior are not included in this study.

The one big factor in large gross returns is that of yields. Heavy tonnage permits of a large volume of business. On an average there is little difference in the percentage of extra fancy fruit or four-tier, sizes produced by the orchards in Group 1 (\$461 per acre) and Group 3 (\$204 per acre). On the other hand Group 1 produces 365 boxes per acre as an annual average against 182 boxes for Group 3.

SIZE OF ORCHARD—One of the most interesting comparisons relates to the acer-

age handled. Large acerages and large yields appear incompatible. Likewise, to a certain extent, we find this true of the percentage of high grade fruit produced. Group 1 (yields) averages 10.01 acres of bearing orchard; Group 2, 14.46 acres; and Group 3, 25.73 acres. Furthermore Group 1 (55.0 per cent extra fancy) handles 16.50 acres as against Group 3 (35.3 per cent), which handles 23.69 acres. Very few exceptions are found to the above rule. The reasons are obvious. Small acerages usually receive better care and are personally supervised by the owner, who takes an active part in the work. On the other hand, much hired help is used on the larger tracts and often inefficiency creeps in.

IRRIGATION—Irrigation is a fundamental practice in the Hood River Valley. Rain-fall for the entire year, though ample, is not sufficiently well distributed during the summer months to permit ample tree growth and maximum production. Since the introduction of alfalfa or clover in the orchard the moisture requirements have practically doubled. This varies according to the age of plants and methods of handling. Where alfalfa is cut for hay it is evident that maximum moisture requirements prevail. The customary practice is to make at least one cutting for hay during early summer. A second cutting is often made before picking time, but the hay is not removed. The aim of such a practice is to permit organic matter to return to the soil.

Thorough discing during early spring is the usual method of incorporating such organic matter within the soil. Such a practice also tends to discourage weed seed dissemination and to form a mulch. Some growers do not cut alfalfa in the orchard, for thus the moisture requirements are greatly reduced. Since alfalfa, when allowed fully to mature, returns more plant food to the soil than when it is cut at an earlier stage of development, it seems reasonable that the practice of not cutting would afford better results.

Striking differences appear under labor charges, "man days per acre," for irrigation. Therein probably lies one of the fundamental causes for differences in results. It is apparent that where the total supply of water is only four "miners inches" to the ten-acre unit, economy in application must be practiced. Such economy is obtained in careful attention to details such as the proper making of rills, the head of water used, etc. Often water is allowed to run in one part of the orchard too long. The result is a failure to irrigate the orchard with sufficient frequency and

(Continued on page 19)

Fine Record With Raspberries

By W. S. THORNER

Clarkston, Washington

DURING the summer of 1912 the writer made a careful study of the possibilities of the commercial culture of small fruit in the Lewiston-Clarkston fruit district, and especially investigated the growing and marketing of the red raspberry. At that time there were no plantations large enough to be considered commercial and there was practically no market for the small surplus of the home gardens. As a result, the situation appeared anything but attractive.

Two or three factors, however, were apparent. First, only a mass of many varieties were grown and no one seemed to know what was best adapted to the district. Second, the Puyallup, Sumner, Monroe, Snohomish and other coast districts were marketing at a profit large quantities of small fruit, and there was only one conclusion possible. Why, should not this district grow and market berries in the surrounding country?

As a result of the study the writer planted over 30 varieties of the best and most promising red raspberries then in cultivation, and proceeded to study their behavior and habits for three years. On account of absence from the farm and the necessity of depending almost entirely upon hired help it was very difficult to secure accurate results on all of the varieties grown. Nevertheless, it was soon apparent that only two or three varieties were at all promising, and none of these showed sufficient promise to make it advisable to plant extensively.

About this time there appeared a new and strange raspberry plant in our patch. It soon surpassed all other varieties in vigor, freedom from sunburn, hardiness and bearing possibilities, and when it fruited we realized it had surpassed its neighbors in size of berry, richness of flavor, and productivity. What more could we ask in one variety?

In 1916 we made our first patch, planting of this variety one-tenth of an acre, for further trial. It was given ordinary cultivation and irrigation but no fertilization. It continued to maintain the same high stan-

dard it established at the start, and continued to produce canes from six to sixteen feet in height, depending on richness of the soil.

The first real crop was harvested during the summer of 1919. While two families picked for table use all berries desired, and canned abundantly, over \$300 worth was harvested from the tenth of an acre. The price per crate received was a little better than \$3.70 per 24-pint crate. We then realized to a certainty that our new plant was worthy of a place in any commercial planting. The people to whom we had sold fruit began to call for the new variety, and the canned product more than ever upheld its reputation as a high class berry.

Early in the spring of 1920, another half acre patch of this variety was planted, as was another of the most profitable of the varieties in culture. These two varieties were given practically the same care for the season, and because we did not feel that there could possibly be much of a crop on either patch, no staking or supports were given to the plants. It was apparent early in June, that while no supports would be necessary in the old variety, our new one would need support and that a very promising crop was beginning to develop.

A careful tabulation was kept of the fruit harvested, and at the close of the season we had obtained just a little over \$300 worth of fruit from one-half of an acre of one-year-old plants. The fruit was sold at a little better than \$2.87 per crate.

The plants were set in rows 7½ feet apart, and thirty inches apart in the row. While our plants have never been well fertilized, it is needless to say that from now on they will get the best there is available.

Some of our friends have insisted that we now name this new berry and have been kind enough to suggest that we call it the "Thornber." I trust that it is worthy of a real name, and that it will add to the pleasure and profit of the raspberry growers here in the Pacific Northwest. I know of no one thing that I would rather do than give something worth while to my thousands of fellow fruit-growers here in the Northwest.

Furthermore, I wish that BETTER FRUIT have the credit of officially announcing the development of my first plant addition to the horticultural world.

I realize that it is a horticultural crime to add one more name to nomenclature, and have hesitated for years in doing so, but now I feel we have something worthy, especially since there is such an awakening in the field of small fruit.

The culture of raspberries has advantages over vegetables, in that one can plant in even poor soil and increase its fertility as the opportunity comes. With vegetable crops it is almost a waste of time and labor not to have the soil in first-class shape. The raspberry grower likewise has the advantage over the orchardist in getting returns in less time and while the original outlay is greater, it does not cost very much more to grow an acre of raspberries than an acre of apples.

It would of course be folly for every one to plant raspberries, but they can be planted profitably in many sections where they are not now grown. We are finding them a splendid companion crop with other fruits.

New Variety of Apple

A new variety of apple is reported as having been developed on the fruit farm of William D. Johnson, at LeRoy, N. Y. It has been named the "Winter Blush," by Asher S. Davis, farm orchardist. In appearance it is much like the Lady Blush apple. The flavor is tart, but pleasant, resembling the Banana apple. It keeps well and is best for eating about holiday time.

Back in 1913 Mr. Davis discovered an apple seedling growing in a fence corner and instructed his men to save it. Later it was transplanted and trimmed. About two years ago, when the first fruit appeared on it, Mr. Davis recognized it as a new variety.

Elimination of the war tax on express shipments, effective today, will save \$1,500,000 a month for shippers.

BEST IN YEARS

Nampa, Idaho, Dec. 17, 1921.

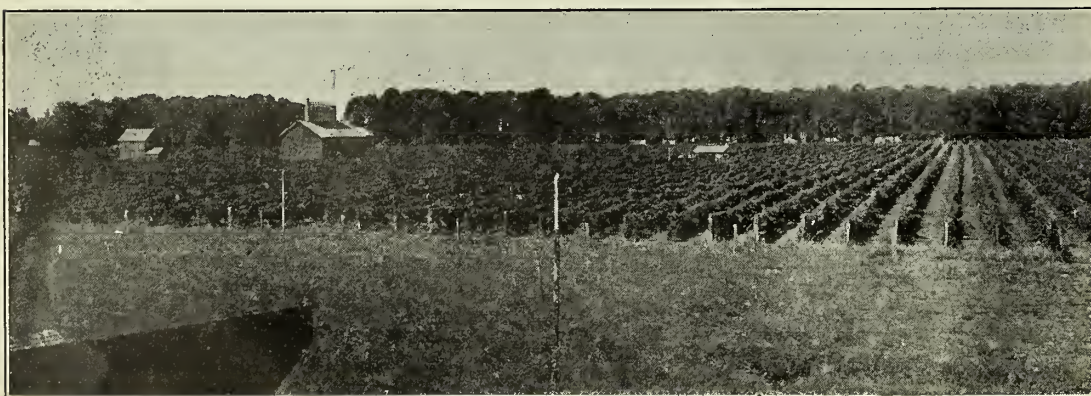
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Arcady Building,
Portland, Oregon.

Dear sir: The December number of BETTER FRUIT was the best issue I can remember reading in years.

I am remitting for seven subscriptions as Christmas gifts for my friends, beginning with the December number. My own subscription is paid until December, 1925.

Very respectfully,

E. F. STEPHENS



TYPICAL FINELY KEPT BERRY YARD OF THE NORTHWEST

Apples in Big Figures

Ten thousand tons of apples, 20,000,000 pounds, will be dehydrated this season by the King's Food Products Company, in their plants at Salem and The Dalles. To meet this requirement shipments have been

drawn from a wide territory, even including Roseburg and Sutherlin, on the south, and the Yakima district on the north. It is said that the output was all sold in advance, this select dehydrated product creating such a demand that it can never be met without an expansion of present plant capacities.

Reasonable expectations from walnuts, cultural requirements, disease and pest control measures, and directions for harvesting and curing the crop are treated in a new bulletin of the University of California, at Berkeley. The bulletin is free to those who wish to send for it.

Lower Machine Prices —a factor in a brighter outlook for 1922

MOST of the readers of this paper know that we have reduced our prices on farm machines for 1922. The lower figures apply on practically our entire line of grain, hay, and corn harvesting machines, plows, tillage implements, seeding machines, etc.

Reductions in prices of farm machines and other articles the farmer buys is one of the many indications pointing to continued improvement in the farmer's situation. The War Finance Corporation is steadily pouring aid from its billion dollar fund into agricultural communities to finance the farmer. Freight rate reductions on stock, grain, hay, etc., now going into effect, will save many millions for the farmers. Land values are now on a sound-

er basis. For 1922, better labor at lower cost will be available, better marketing conditions are being evolved, and recent tariff legislation also should tend to increase farm product prices.

All these factors indicate that more efficient production by modern methods and improved machines will mean greater profit for the new year. You cannot afford to postpone the purchase of needed machines. Where repairs have been made again and again, beyond the point of serviceability, waste and loss are pretty sure to follow. The present prices will enable you to replace the old with efficient modern machines so that best use may be made of the opportunities that are certain to come to the farming world.

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Boxed Apple Situation in Review

By W. F. GWIN

President Northwest Fruit Exchange

Here is presented a comprehensive review of conditions and developments of the current apple season of the Northwest, now drawing to a close, as given in an address by Mr. Gwin at the Pacific Northwest Fruit Exposition in Seattle in November. The analysis brings out points of importance to all northwestern growers and shippers, some of which are not always taken into consideration. The article helps to point the way to more effective marketing methods for the future and is worth study from this standpoint alone. Facts of the situation are set down without coloring, the unfavorable with the favorable developments. As a whole they must inspire a certain optimism and no little satisfaction over the season's results.

story of the northwestern boxed apple for the year might be written in more dolorous terms.

The states of Washington, Oregon, Idaho and Montana, taken together, the last season produced the largest apple crop in their history. General business conditions, as everyone knows, have been the most adverse in a long term of years. Manufacturing plants all over the country have, in most cases, been closed down entirely or working on part time. Millions of workers are walking the streets looking for work, and all classes of people are economizing.

Northwestern boxed apples find their way into consumption to an overwhelming extent via the route of the fruit stand. Their principal consumer is the man in the street. To a great extent they are eaten out of hand; only to a minor extent are they sold from grocery stores and used for general household and culinary purposes. Therefore the demand for them is acutely affected by unfavorable conditions in the great manufacturing industries, as the best consumers of northwestern apples are the highly paid mechanic classes.

Beginning with the copious rains which fell in the producing districts of the Northwest early in the fall of 1920, growing conditions were ideal. The result was that there came to maturity not only the largest crops the Northwest has ever produced, but perhaps one of the best from the standpoint of color, finish and general merchantability. Labor was plentiful and, while labor costs have not been deflated as fully in this industry as in many of the producing industries in the east, produc-

tion costs, taken altogether, have shown very satisfactory readjustment.

Before an examiner of the Interstate Commerce Commission in Yakima last winter, testimony was taken from a large number of competent witnesses as to the total cost on board cars, of the apple crop of the season of 1920. One of the most competent of these witnesses testified that it had cost \$2.28 per box to produce the 1920 crop and deliver it on board cars. Others gave figures, some higher and some slightly lower, but it is safe to say that the average producing cost last year was perhaps somewhere between \$2 and \$2.25. What the actual cost will prove to be for 1921 is yet undetermined, but it should not exceed 50 per cent of last year's cost.

It was apparent long before the crop was ready to harvest that the marketing of the 1921 crop would be characterized by a marked absence of speculative or storage activity. Up to this year it has been estimated that from 75 to 85 per cent of the entire commercial crop of the Pacific

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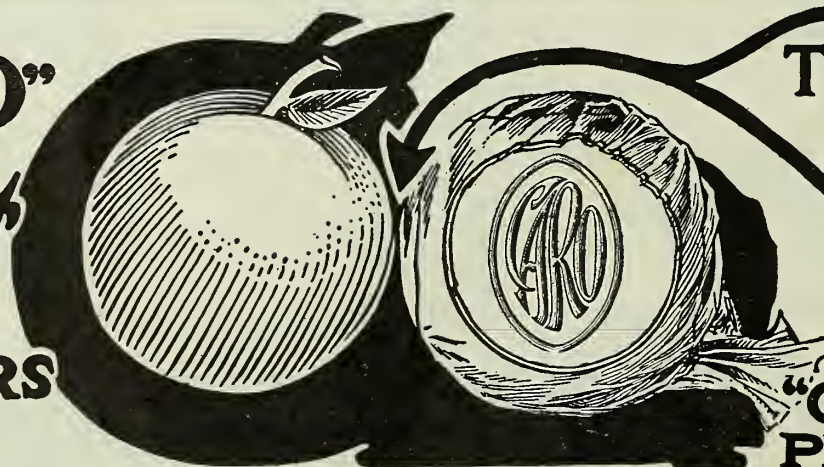
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Northwest found its way into cold storage at terminal or transit points either for a long or short term.

CONDITIONS in 1921 were adverse to storage operations by the trade on the usual scale. The situation was unsettled, commodity prices were exceedingly uneven, and the value of every kind of commodity subject to unusual fluctuation. Hence it was manifestly necessary that unusual preparations be made by the producers and their sales agencies to effect an even wider and thinner distribution of this large crop over the markets of the world than had ever been achieved in previous years. It is one thing to have trainloads of apples arrive in the big centers sold and destined for cold storage and quite another thing to have similar or even greater quantities (as this season) arrive on those same markets unsold and at the mercy of the open market. This year, then, the value of strong growers' organizations and marketing agencies has been demonstrated and emphasized in a very much stronger, more impressive manner than ever before, especially during the years of the war and the period following the Armistice. This year it was a case of the product seeking the market and in the most aggressive manner. Growers have prospered in direct proportion to the skill and salesmanship at their command.

Despite the favorable factors touched upon, conditions have not been unmixd with very serious and adverse factors. The railroad companies, fully apprised of the unusual size of the 1921 crop, nevertheless felt confident of their ability to furnish enough refrigerator cars to move it to market as rapidly as it was ready. Assurances to this effect were given growers and shippers by all lines serving the territory. Reliance was placed in these assurances and it came, therefore, in the nature of a staggering blow when almost without previous warning the car supply fell far short of requirements during the latter part of September. The harvest was on in full blast and the situation was aggravated by the unprecedentedly early date on which the shortage arrived. In previous years the supply was usually fully adequate up to the middle of October.

Occurring when it did this year, the shortage resulted in almost immediately overflowing the packing houses and warehouses. Packing schedules were upset and the movement of the crop to market seriously delayed, with the result that the industry has sustained losses no doubt running into the millions of dollars, due to the rapid ripening of certain of the early and intermediate varieties for which during a period of several weeks no transportation was available.

Despite the fact that several of the best organized and most experienced marketing agencies have broken all records this

(Continued on page 25)

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Louisville, Kentucky

Elemental Treatise on Pruning the Apple

Prepared by STAFF WRITER

Here is the continuation of the thorough-going discussion of pruning, its objectives and principles, begun in the December issue. This installment resumes the discussion of proper methods of forming the tree head, not fully completed last month. From here the subject is pursued in logical sequence, practices for pruning at the various successive stages in the life of the tree being given.

(Continued)

IN formation of the open-headed tree, through pruning operations of the first two years, it is very important to avoid the one weak point of this type. This is in the crotch, which must be made as strong as it is possible to make it.

Formation of the head between the heights of fifteen and thirty-five inches, as here suggested, solves the problem of weak crotch. It permits the branches to start more horizontally without seriously interfering with cultivation and gives better distribution, prime factors in producing a strong crotch.

Two Years to Form the Head—The habit of growth makes it impossible to form the head with a proper distribution of branches in one year. The growth usually occurs at the top, due to a congestion of sap and the upper buds being stronger. To cut at thirty-five inches would probably result in a few shoots at the top while the lower buds would only develop leaves or remain dormant, producing little or no growth from which to select the lower scaffold branches. It would only be under the most favorable conditions that the newly planted tree would be able to force sufficient growth along its entire stem from fifteen to thirty-five inches to make the proper selection of the lower scaffold branches possible. Therefore, two years are necessary in properly distributing and forming the scaffold branches.

Cut to Twenty-Five Inches When Planted—The first year head the tree at twenty-five inches. This will probably force most of the buds between fifteen and twenty-five inches into growth. The top shoot, which is usually almost vertical, is left about ten or twelve inches long, cutting it at thirty-five inches from the ground. The other laterals are stubbed back to one or two buds. This top shoot forms a continuation of the trunk and the following season, lateral growth will be thrown out from it as well as the stubs and dormant buds on the old stem. Thus at the end of the second

season there will be numerous laterals along the entire stem, making it possible to select four, properly spaced between fifteen and thirty-five inches to form the scaffold branches.

A study of habits of growth will show the practicability of this system. All branches grow toward the best light conditions. The top shoot usually grows almost vertical. Lower branches tend to keep away from the shading influences of the branches above by growing more horizontal. Thus the upper

shoot usually lends itself admirably as a leader. Should it be too horizontal cut it short to an upper bud which the following year will form a leader.

How does the growth start? The greater part of the root system has been removed and not a single feeder is left. New root feeders must be produced before the tree can draw nourishment from the soil. This calls for the reserve energies of the tree; elaborated food stored in the tissues of the stem and roots. When the leaves begin to



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push out, the reserve food and moisture is used until the root feeders can be formed to supply more. This will explain how newly planted trees may start into growth with apparent vigor, only to die later when the reserve food and moisture is exhausted. By cutting back the top further and thus reducing the number of buds, this supply is conserved and thus the tree is tided over the critical time until the root feeders are formed.

The heavier cutting back to twenty-five inches will also stimulate a more vigorous face. This is of prime importance in aiding the tree to resist the attacks of borers growth by reducing the tissue building sur- and to heal its wounds received in cultivation.

The severe stubbing back of the branches after the first season's growth will stimulate a very vigorous growth the following year, forcing more buds into growth to produce more laterals along the main stem from which a better selection of scaffold branches can be made.

FIRST Year—As has already been said this pruning is largely stubbing back. Remove all growth below fifteen inches and leave the upper shoot to a height of thirty-five inches as a leader. Generally two buds are left per stub, not for the purpose of getting two shoots, but to insure the growth of at least one. In fact, only one is desired from each stub. Some may question the advisability of stubbing back good strong shoots which are apparently well located for the lower scaffold branches. Why not leave these fourteen or sixteen inches long, removing the others and growing the upper scaffold branches from the leader the following season? The reasons are: First, to cut back reduces the number of buds and increases the vigor, thus insuring a growth from all the buds on the leader and stubs so that the best possible selection can be made. Second, they might be poorly located with reference to those scaffold branches produced the following year. Third, they would have the lead and might tend to draw too heavily on the sap supply and stunt the younger upper branches. Stub back and give each lateral an equal start. If the tree has made a heavy growth the stubs may be left six or eight inches if by so doing sufficient wood is removed to stimulate a growth from every bud left.

Some orchardists practice stripping off the leaves in the spring below fifteen inches on the trunk to force stronger growth into the shoots above. This is not advisable. There being no object where stubbing back is practiced, and the first year every leaf should be left to encourage growth and root development, and to aid in the protection against sunscald. However, where screening is necessary for protection against borers, rabbits, squirrels or sunscald the lower buds are rubbed off.

Second Year Pruning—This is the most

important pruning. The future of the tree, its strength and efficiency, rests largely with the proper choice of scaffold branches. It is far more important to have them issue at different levels than to balance the tree by growing from opposite sides. Their growth will occupy the vacancies later, but their position on the trunk never changes. Remove all growth except the selected laterals which are headed back in accordance with

the vigor and growth of the tree, leaving them twelve to eighteen inches long. If the tree has made a weak, insufficient growth not permitting a good selection, stub back as before.

By cutting to certain buds one can influence the direction of the growth. The last buds tend to grow in the general direc-

(Continued on page 20)

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For Prosperity

This journal is not and never will be made a land-boosting, project-promoting organ. It has both a definite field and a well-defined policy. It will zealously stick to both.

In the face of the great need of the Pacific Northwest for more people on its lands, as amply set forth in this issue, it appealed to us as a real duty to do our bit toward inviting the dissatisfied and restless residents of eastern states to give our fruit sections the consideration they merit. With this object in view, publication of this Homeseekers' Number was conceived.

The number might be larger; it might be better, but we would do nothing to make it lurid or misleading. If you think the idea has been a good one will you not tell us so? If you think it might well have place as an annual feature we should like to know that.

It is our hope that many extra copies will be sent to the eastern friends and old acquaintances, to carry the message and the invitation of the Northwest to them.

Meanwhile, our energies are fo-

cused on the ambition to do all we can toward making the year 1922 the best and most prosperous ever enjoyed by the fruit industry of the Northwest.

Bringing in Settlers

There is evidence that the automobile is to do more than any other agency toward locating new settlers in the Pacific Northwest. The way this comes about is all very simple.

Touring by motor has become a great national avocation. The touring range has rapidly widened until now it is no uncommon sight for the northwestern rancher to see a car bearing a New Jersey, or Massachusetts, or Texas license spin by his front door. In the season just closed this section has seen a continuous procession of motor parties from the Middle West, South and East.

Random figures from the Portland municipal auto camp will serve to illustrate. From Massachusetts the camp registered 16 cars, from New York, 55; Maine, 2; Virginia, 6; Florida, 15; Texas, 62; Illinois, 102; Nebraska, 85. The total of registrations to October 1 was 5,700 cars.

The point of particular interest is the fact that fully 15 per cent of these tourists actually located here in the Northwest, according to estimate of the camp attaches, who talked with them. For these tourists this was the end of a quest for a new home. They had sold out in their old location and jaunted forth in the dear old family car in search of a more pleasing home. Here they found it, and here they have settled down.

Fifteen per cent of 5,700 is 855. We have reason, then, to believe that the automobile brought through this one camp 855 families as new settlers for the Northwest. It brought, of course, other hundreds of families through other points.

There is ample justification for applauding the good work of the faithful flivver and trusty touring car—and hoping that double the number will head this way next season.

Land Frauds

Officials in Michigan have discovered that much worthless land in that state has been sold to prospective farmers on representations by real estate firms that the land was ideal for fruit growing or potato culture. So extensive have become the activities of such land sharks that state and federal representatives held a meeting to consider the matter.

States of the Pacific Northwest are plainly much ahead of Michigan in the matter of protection for settlers purchasing lands. There are several factors here that assure the buyer of land, raw or developed, against fraud.

To pass over the fact that there are mighty few areas where may be found worthless land that would deceive any but the simple minded, there are other safeguards. It is a fact, for instance, that crooks have been weeded out of the ranks of real estate dealers here. This is no mere idle boast.

Consider the laws of Oregon. They require all real estate dealers to operate under a license and under bond. One mis-step for any dealer in the state would not merely mean that he would immediately be put out of business by revocation of his license, but there remains full opportunity for recovery by suit on his bond. This is typical of the way northwestern states have banished crooked land operators.

Other protective factors include the numerous soil surveys, already completed and published, and the services of the agricultural colleges in making free tests of soil samples submitted to them. Again, public sentiment out here some years ago became a barrier against misrepresentation. The prospective purchaser may easily learn the truth about lands under consideration by merely asking the judgment of nearby ranchers.

There are few sections of the United States where the buyer with intelligence enough to observe and ask questions, is more certain of getting real value for the money he invests than here.

Development Problem of Oregon

By GEORGE QUAYLE

Secretary Oregon Land Settlement Commission

It becomes evident to the reader at once that Secretary Quayle has no hesitancy in telling Oregon's lack of population and giving intimation of what this lack means. Surely abundant facts are presented to show that there is nothing inherently wrong with the state or its lands as the cause of slow development. The potential agricultural and horticultural wealth is here, he shows, the trouble being that not enough people have yet discovered the fact.

THE same opportunities which brought the first pioneers across trackless wilderness in search of a land of fertile valleys, rich plains, mild climate and "plenty of elbow room," are present in Oregon today, comparatively speaking. And it is a strange paradox that this state, which is admittedly of the first rank in wealth of potential agricultural resources, has been surpassed by neighboring states in the growth of rural population.

The population of Oregon is given in the 1920 census as 783,285, or 8.28 to the square mile. Compared to the average density of population throughout the United States, 35.5 persons per square mile, or, more specifically, to the neighboring states,—California, with its 22 per square mile, and Washington, with 20.3,—it is evident that Oregon is capable of tremendous expansion in rural population.

The ratio of cultivated to uncultivated lands in this state may be given in a nutshell. It is estimated that there is 23,000,000 acres of land suitable for cultivation in Oregon, of which 3,200,000 acres, or less than one-seventh is actually producing crops.

Government reports are proof of the fact that the fertility of the soil is unsurpassed. Oregon wheat last year ranked third in the United States in yield per acre; Oregon apples and western Oregon walnuts and prunes hold rank with the best in the markets of the world; nine-tenths of the world's supply of loganberries is raised in western Oregon.

In eastern, southern and southeastern parts of the state, large areas of arid and semi-arid lands are being brought under cultivation by the building of great irrigation projects. These irrigated lands are admirably suited to the production of a wide range of agricultural and horticultural products. Central Oregon potatoes, grown on irrigated lands, have already established an enviable reputation.

At the present time there are 1,250,000 acres included in irrigation projects com-

pleted or under construction and it is estimated that there is at least an additional 1,000,000 acres capable of irrigation in the future.

In western Oregon, and particularly in the Willamette Valley, is found a combination of soil and climate that is most ideal for fruit growers, the dairy man, the poultry man and the gardener. A moist, mild climate, combined with a natural richness of the soil, makes this section highly inviting to the settler.

While the Willamette Valley is the most thickly settled portion of the state, there is room for a far greater development in the future. It is estimated that there are more than 800,000 acres of cut-over lands suitable for agriculture, the bulk of which is found in the foothills bordering on the Willamette Valley and in the coast hills.

These cut-over lands represent one of the richest agricultural assets of the state as yet undeveloped. While the clearing of these lands is a hard and expensive task, it is expected that the development of logged-off lands will be greatly facilitated through the operation of the Logged-off Land Bill which was passed at the last regular session of the state legislature.

For the purpose of demonstrating to the settler what may be done on a one-man farm, the Oregon Legislature, in its 1919 session, created a commission known as the Oregon Land Settlement Commission, composed of five representative citizens, appointed by the governor, who serve without pay. It is the duty of this commission to establish for settlers in different parts of the state typical farms on which modern improvements will be made with the idea of reducing to a minimum the necessary farm work. The object sought is to create a highly improved one-man farm to be operated under ideal living conditions for the farmer and his family.

Three of these experimental farms have been established, one near Independence, one near Roseburg and one near Prineville. Two more units have been selected, located near Marshfield and Ontario. While three of the above projects are fully completed, the commission has decided to wait until the results of two or three seasons are obtained before using them as examples.

The commission has co-operated at all times with the Oregon Agricultural College in the furthering of this work, and it is expected that as soon as possible an official report will be ready for the prospective homeseekers as to exactly what may be expected from a one-man farm in the representative districts of the state.

The National Orange Show will be held in San Bernadino, Cal., February 17-27.



ALBATROSS BRANDS

How to prevent the "blotch" or "burn" of the spray on fruit

Observe this study in contrasts. The apple at the left was sprayed with Arsenate of Lead—a wonderfully good spray. But the user neglected to mix "Spray Spread" with it. Below is a similar apple—sprayed with the same kind of spray—but Albatross Spray Spread was mixed with the spray. Note the difference—the "lead" dried on the FIRST apple in spots—or blotches. The second apple received an equal amount of protective spray—but it spread over the apple in a thin film. Appearance and marketing appeal of the apple is thus retained. The pictures tell why Government experts are so enthused over "Spray Spread"—why experienced horticulturists say it has NO equal for spreading an "arsenate of lead" spray.



Note the "blotch" or "burn" of the lead on this apple

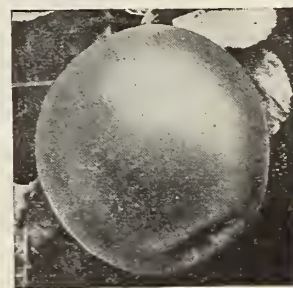
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5. Does not injure foliage.
6. Recommended by experts.
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Directions sent with each order



Note the uniform, adhering film on this apple

PACKAGES AND PRICES

200 lb. Bbl.	Boxes	1 lb. Pkgs.
20c lb.	22c lb.	25c lb.

Freight prepaid to Northwest points.

One pound spray spread is sufficient for 200-gallon tank.

NOTE: If you use Casein, Albatross Superfine is the brand to buy. Very finely ground—quickly soluble when mixed with alkali.



—for storage plants, packing sheds, etc.

During the last six years a very large proportion of the major industrial plants, warehouses, lumber mills and canneries (list on application) have been made "spick and span" with Albatross Cold Water Paint. This paint is very economical to use—drys snow white—will NOT peel or rub off—retards fire—easy to apply—and when properly applied, reduces insurance rates. Has remarkable spreading and covering qualities—will work over wood, rock, plaster or other material. For almost any kind of commercial interior, Albatross Cold Water Paint is unequalled. Extensively used in the fruit world for storage plants, packing sheds, etc. Tell us your requirements—we can meet them to your complete satisfaction. * * * General Basic Products Co., Sole Manufacturers, 4706 E. Marginal Way, Seattle, U.S.A. Dealers: Address us for attractive sales proposition.

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Professor A. L. Lovett, the eminent entomologist of Oregon Agricultural College, in speaking of Casein as a spreader, says: "It has an advantage in cheapness, availability, compatibility in most spray combinations, and in ease of preparation. For these reasons it was given first rank in our subsequent tests and experiments."

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LOS ANGELES

Improvement in Orchard Management

(Continued from page 9)

regularity to maintain uniform soil moisture. Again, an insufficient head of water permits waste near the flume and an insufficient supply to trees at the other end of the row.

Proper supervision of irrigation requires very frequent inspection of the factors mentioned. Group 1 (386 boxes), shows an average of 2.79 man-days per acre per season; Group 2 (257 boxes) 2.07 days; and Group 3 (186 boxes) 1.57 days. In other words, Group 1 spends 78 per cent more time each season supervising approximately the same number of irrigations than does Group 3. The same point of view is well illustrated under "Value per acre" classification. Group 1 spends 2.35 days per acre; Group 2, 1.99 days; Group 3, 1.51 days.

SPRAYING—Much progress has been made during the past few years in application of sprays, combinations, dilutions, and timeliness. This is reflected in higher percentages of extra fancy fruit. The most striking introduction has been the use of the spray gun in place of the long, cumbersome spray rod. Greater efficiency in the use of labor and material has resulted. During nearly the entire period covered by this survey the three and one-

half horse-power sprayer with two spray rods was used. The same machine has now been supplanted by the spray gun, or replaced by a larger machine, usually ten to fifteen horse-power, capable of furnishing two or three guns with a capacity of approximately fifteen gallons a minute.

Striking differences in the amount of spray material used by the different groups is brought out. Group 1 (yields) shows an average of 2015 diluted gallons to the acre annually; Group 2 1923 gallons; and Group 3 1381 gallons. On a tree basis this is 27.45, 27.21, and 20.26 gallons for each group, respectively. Under extra fancy, Group 1 shows 2181 gallons an acre, or 29.34 a tree; Group 2, 1653 an acre, or 23.56 gallons a tree; and Group 3, 1592 gallons an acre, or 24.0 a tree.

THINNING—Thinning is another fundamental orchard practice requiring thoroughness, timeliness, and good judgment. There are several aims which the grower usually has in mind when doing this work. One is, that such a practice tends to promote annual bearing. In other words, that removing fruit entirely on some spurs will tend to cause such spurs to fruit during the following year rather than to overbear one year, with little or no fruit the following year.

Data compiled at different experiment stations throws serious doubt upon this conclusion. On the other hand, some growers go to the other extreme in failing to prune enough. No set rule can be laid down which will cover all cases. Generally speaking, one may safely avoid heavy pruning while the trees are young and vigorous, especially thinning out. This would be true with yellow or green apples. Red apples would need at least a light thinning out.

One grower of Newtowns, fifteen years old, who had very large yields on a six year average, practically did no pruning on his trees between the ages of six and twelve years, with the exception of removing a few of the large lower limbs which interfered with cultivation. With a maximum fruit-spur system, and vigorous trees, very large yields have been secured. Such a plan has not, however, been without its disadvantages. Fruit spurs in the lower portion of the trees have become weakened through excessive shading and do not today function vigorously. Thus the tendency is for fruit wood to extend further and further out on the main limbs where it is less easily thinned, sprayed or propped.

This is a condition into which many of the older orchards have fallen—that of having long barren areas in the lower portion of the tree devoid of fruit spurs.

It is difficult, if not actually impossible, to restore such fruiting wood in the area mentioned, chiefly because any rational plan of pruning is too far removed from the area to be influenced. Usually heavy pruning removes practically all new, thrifty bearing wood and promotes an excess of suckers which, in turn, do not come into fruiting, or may produce a few weak spurs after possibly several years of waiting.

The more nearly the grower approaches annual pruning the more satisfactory and uniform are the results. Group 1 (yields) averages 78 per cent of the orchard annually pruned; whereas, Group 3, averages only 48.7 per cent.

From the foregoing data the possibilities in the apple business are established. Marked differences in the performance records of one orchard as compared with another are brought out. These differences are associated with different methods of management. Chief among these is the matter of variety, age of trees, acreage, irrigation, pruning and spraying.

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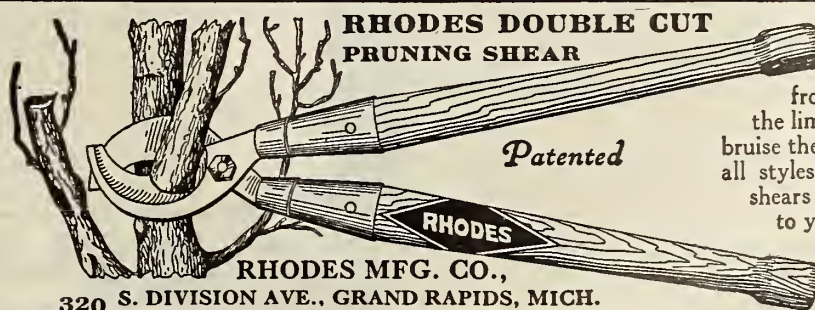
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Elemental Treatise on Pruning

(Continued from page 15)

tion of the branch, while the lower buds make a more lateral growth. The last buds usually make the strongest and most desirable growth. With young trees it is generally necessary to encourage spreading growth. This may be done by cutting to an outside bud, or if much spread is desired, leave the next bud above in order to encourage a more horizontal growth from the bud chosen. Cut to laterals in preference to buds if suitably placed.

Third Year—The amount of wood to leave or remove depends entirely on the vigor of the tree. If a strong growth has been made three laterals eighteen to twenty-four inches in length may be left on each scaffold branch. If the growth has been small and weak, leave only one or two twelve to fifteen inches in length.

In making the selection choose branches making an outward spreading growth, allowing no two to issue near the same point, cross, or occupy the same light and air space. Upward growth may be encouraged from now on if the branches have attained sufficient spread.

Fourth Year—The frame work of the tree has been formed and from now on the pruning is largely a process of heading back and thinning out, cutting as little as possible. Light summer tipping is conducive to fruitfulness. Remove crossed, diseased, and superfluous branches, keeping the head more or less open to the light. Heading in will tend to keep the tree within bounds and encourage the more fruitful lateral growth.

TIME to Prune—There is a general tendency for orchardists to disregard the needs of the tree and prune entirely in winter. This is probably due to the facts that in winter labor is more plentiful and cheaper and the orchardist has more time. Pruning also is more easily accomplished when the leaves are off, as the pruner can readily choose the branches to cut.

Pruning may safely be done under certain circumstances at any time of the year. The proverb, "Prune in winter for wood and in summer for fruit," explains the different physiological effects of pruning at the different seasons.

Winter Pruning—Removing wood during the dormant season inspires wood growth. The heavier the pruning the more growth will result. The reason is obvious. The removal of wood during dormancy reduces the surface over which to expend the redundant energy, giving a proportionately greater food supply for the remaining branches.

Winter pruning is practical where wood growth or vigor is desired; as on young trees, stunted or weak growing trees, varieties which tend to over bear, or where the soil is light and dry causing much small fruit and little wood growth.

Pruning may be done at any time during the dormant season but preferably just previous to the beginning of growth. If done in the fall or early winter the wounds are subjected to a long season of drying before the process of healing begins. Avoid pruning when the branches are frozen, as they will crack, dry out, and die back.

Summer Pruning—The prime purpose of summer pruning is to incite fruitfulness. It is used to check the rampant growth and hasten the period of profitable bearing of young trees and to check the wood growth and increase fruitfulness on vigorous growing, tardy or shy-bearing varieties and trees located on rich, heavy moist soils.

The physiological reasons for these effects are not fully understood, but generally supposed to be due to its weakening effects on the plant. All plants become fruitful when starved or made to suffer. Girdle a tree during the summer and it will ripen its fruit prematurely in one last effort to reproduce its kind. The removal of leaf surface reduces the manufacturing or elaborating of food, thus tending to starve and weaken the plant. This not only reduces the growth in the stems, giving immediate results, but also retards the extension of the roots, making the results more permanent. The vigor of the roots is largely determined by the amount and vigor of the top. On the other hand the removal of wood during the growing season has a stimulating effect similar to winter pruning by reducing the surface of growing tissue over which to distribute the elaborated food.

Summer pruning has both stimulating and weakening effects. The greater fruitfulness is encouraged by securing the greater weakening or starving effect with a proportionately less stimulating effect. In other words, where the stimulating effect is greater than the weakening effect it defeats the end; it stimulates a wood growth instead of inciting fruitfulness. Therefore the efficiency of summer pruning rests

largely with the ability to remove a large leaf surface with a proportionately small amount of wood. Tipping and pinching back of the current year's growth gives the best results.

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Commercial fruit growers, whether private shippers or members of associations, know the vital necessity for adequate storage facilities on the ranch. The unprecedented early freeze of two years ago cost many growers much more than proper frost-proof storage space would have cost them.

What are you planning in this regard?

Tell us your experience in providing your own storage for your crops. What

kind of a structure have you and what were the materials used? Has it been built particularly with permanence in mind?

We want pictures of structures of this kind. Those which we can use will be paid for at a fair price. Don't hesitate to write to us at length about your structure and how you use it.

Orchardists intending to sow grass and cover-crop seed may make a serious mistake by not forwarding samples to their agricultural college for free tests as to purity. Illustrating the worthless character of some of these commercial seeds was a test recently made by the farm crops department of the Oregon Agricultural College. A sample of commercial Kentucky bluegrass seed, sent in for testing, was found to contain 82 per cent chaff and only 17 per cent pure seed.

A PERFECTLY formed pear weighing 2 1-2 pounds and said to have been grown on a tree 73 years old, was recently exhibited by John Dreith, of Visalia, Cal.

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Edmonds, Wash., Nov. 7, 1921

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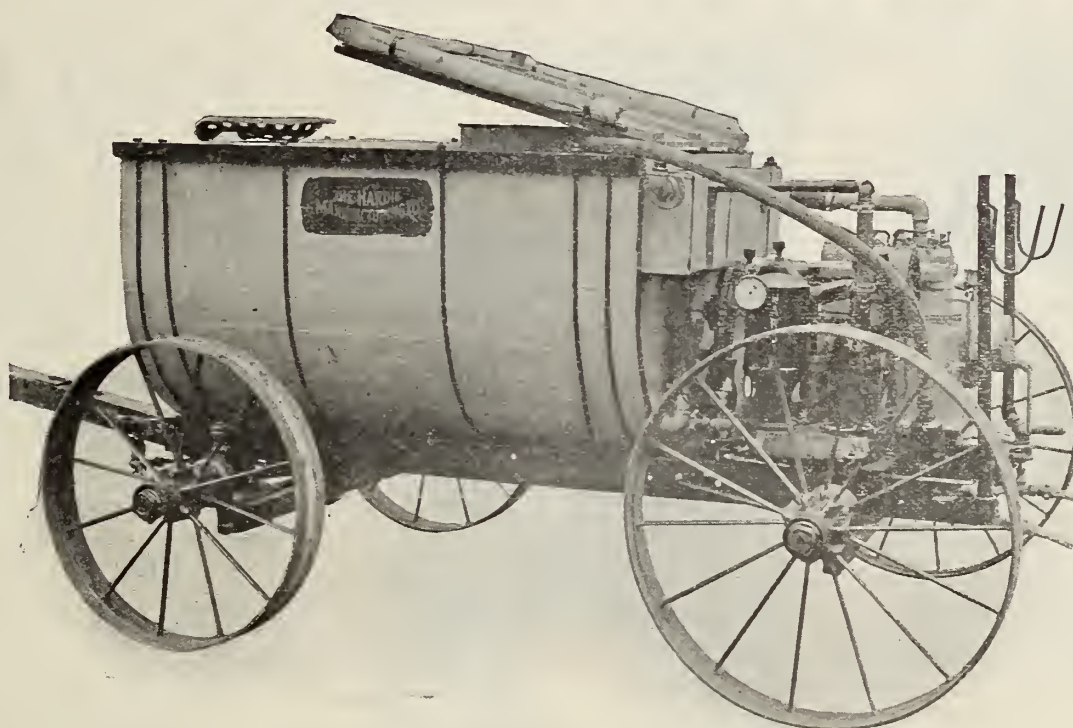
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In our four hundred-acre nursery located on clean new soil of the Yakima Indian Reservation we grow a complete assortment of commercial fruit trees and general nursery stock. Rich soil, a long growing season, moisture under control and perfect fall weather for maturing our stock enable us to produce and deliver nursery stock unsurpassed for vigor, thriftiness and root system.



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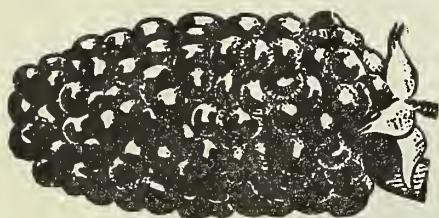
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Yakima, December 8, 1921

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Portland, Oregon.

Old Friend:

You don't have to advance my "sub" any to get me to renew. The "little old magazine" is worth all you ask for it, and then some. I am sending in a two years' subscription instead of one so I won't be bothering you for a spell.

Respectfully

(Signed) W. C. Hall

Yakima, Wash. R. 5 Bx. 73

Harvesting Profits From Walnuts

(Continued from page 6)

of course, one has suitable land, properly located:

"Planting a walnut grove is like taking out life insurance with this difference—if you have a twenty year policy you pay a certain amount each year for twenty years; if you plant a walnut grove you pay a certain amount in cultivation, work and capital invested, for 10 or 11 years. After this your trees will pay your yearly dues. In 20 years you will have a piece of property worth from \$1000 to \$1500 an acre.

"There is no surer investment, provided the trees have the best care. I know 10 or 12 years is a long wait, and this is one of the reasons this line of horticulture is not further advanced in this state; but, if we consider the long life of the tree, it is a short time after all. If only the people of this state would realize the opportunities of making money by the growing of walnuts, our hillsides would be one continuous walnut grove. The time is surely coming when the growing of walnuts will be one of the greatest assets the state has."

Such is the opinion of Mr. Trunk, after spending 15 years in the game. Readers will doubtless be interested in knowing something of the history of his operations and his observations, as to cultural methods.

For one thing, he urges good cultivation. It is imperative, he says, that the trees be not neglected the first seven or eight years.

Location of the grove is another important point. Some groves about Dundee, planted at too low an elevation, were ruined in the severe winter of 1919.

The record of Mr. Trunk's experience with walnut plantings may well be given in his own language, as reported to the 1920 annual session of the Oregon State Horticultural Society:

"At my home place, on the road between Dundee and Dayton, about 70 acres is adapted to the growing of walnuts. The remainder of the land lies from 25 to 50 feet too low. The trees on this lower land grow well, but the crop is not so sure. Every year there is a certain amount of danger of having nuts frosted either in the spring or fall, whereas, on the higher land, we have never had any damage and are certain of a full crop of nuts each year.

"AS MANY KNOW, one of the oldest and largest walnut groves in the state is at Dundee, planted by Thomas Prince. As my land and soil were similar to that of the Prince place, I decided to plant 10 acres. This was in 1906, when walnut growing was still an experiment here.

"Many started to plant when I did. Some became discouraged the first and second years, and the others fell by the wayside the following years. Today there are about a dozen of the old faithful growers left, and I respect these men who had the

staying quality to wait and see what the nut tree would really do in this state. We have proved that in this valley walnuts can be grown on a paying basis, and that they are better filled in and better flavored than in any other place on the face of the earth.

"Last year, (1919), we took from 26 acres of nut trees, averaging 11 years old, \$4200 worth of nuts, which is 16½ per cent on land valued at \$1000 an acre. Less than \$700 covered all expenses of cultivation, harvesting and drying. This year, (1920) on account of lower prices, our income will not be quite as large—only about 12½ per cent on a \$1000 per acre valuation.

"Please bear in mind that these trees are still very young. The life of the prune tree is about 35 years; that of a walnut tree about 250 years. So, when a nut tree is 50 years old, it is still in its childhood days."

Returns from the increased acreage of nuts Mr. Trunk had this past year will be about comparable to those of 1920. He has sold most of his grafted nuts at the gratifying price of \$700 a ton, or 35 cents a pound.

While he now has 38 acres of trees of bearing age, he has additional acreage

planted which will bring the total to 70 acres. In about 28 acres of the plantings, prune trees have been used as a filler.

This constant expansion of plantings and holdings bears the best of evidence as to Mr. Trunk's faith in the future of English walnut culture in this state.

AMERICAN GROWN FRUIT TREE STOCKS

Apple Seedlings, Straight or Branched. Also Pear Stocks from French and Japan Seed, American Plum, Mahaleb Cherry and Peach Seedlings in all Grades. Car Lots to Central Points.

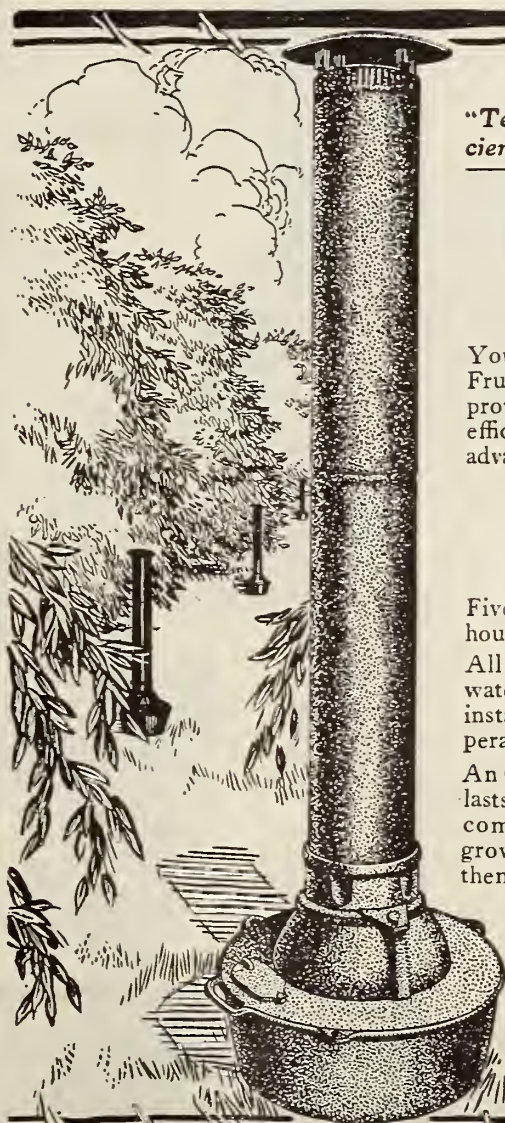
Foreign Grown Stocks

Apple, Pear, Mahaleb, Myroblan, Quince, Manetti and Multiflora. All Grades. In Prime Condition. Can quote in France or out of Customs in New York or at Shenandoah, Iowa. Prices reasonable.

Remember our Complete Line of General Nursery Stock for Fall and Spring trade. We are now ready to do Business. Submit List of Wants for Prices to

SHENANDOAH NURSERIES

D. S. LAKE, President
SHENANDOAH, IOWA



"Tests on Oldsmar Heater show 100% Efficiency."—Prof. Peebles of Armour Institute

Frost Insurance at Minimum Cost

You insure your house, why not your crop? Fruit growers everywhere can have assured crop protection through the use of this improved and efficient heater which has a number of notable advantages over any other kind.

Oldsmar Frost Protector Costs Less To Operate

Five gallons of distillate fuel oil burns 10 to 15 hours according to temperature desired.

All cast iron (stack excepted), the Oldsmar is waterproof and cannot get out of order. Lighted instantly, it requires little attention and temperature regulation is positive.

An Oldsmar costs less than other cast iron heaters, lasts longer, requires fewer to the acre; affords complete protection — California and Florida grove owners and truck farmers are ordering them by thousands.

Write today for literature and full information about how the Oldsmar can protect your crop

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Oldsmar, Florida
Kell-Oil Heater Company
Coldwater, Michigan

O. V. BADLEY COMPANY

Distributors of Oldsmar Products

425 East Morrison Street

Portland, Oregon

Annual Meetings

A MOVEMENT seeking union of the horticultural associations of the states of Montana, Idaho, Washington and Oregon, was launched at Spokane last month, with Washington horticulturists taking the initiative. A call was issued that is expected to assure a conference of executives of the four associations at Spokane on January 21.

Outcome of the joint conference will be awaited with keen interest by fruit growers of the Northwest and others connected with the industry. Wrapped up in this proposal for a union of the state horticultural societies are potent possibilities. So many good things may be achieved by such an organization that it is to be hoped nothing may interfere with plans for its formation. A joint annual meeting, joint annual educational exhibit, united advertising for northwest apples, unified legislation—these are some of the more vital matters in which united action may bring far-reaching results.

The launching of this move for union of the state societies was, perhaps, the biggest thing accomplished at the annual meeting of the Washington State Horticultural Association and Fruit Growers' Conference, held at Spokane, December 12, 13 and 14. Action was taken more clearly defining apple grades and slightly modifying them in a few respects. On December 14, 15 and 16 Spokane entertained the annual convention of Northwest Potato Growers, at which a fine potato show was a feature.

On December 7 and 8, the annual meeting of the Idaho State Horticultural Association was held at Nampa. The sessions were well attended and papers and discussions brought out educational features of real benefit to those present.

In the election of officers, taking place near the close of the convention, these men were picked to head the association during 1922: J. P. Gray, president, Nampa; C. H. Sargent, vice-president, Fruitland; I. Lee Truax, secretary, Boise; A. E. Gipson, treasurer, Caldwell. The latter two men were accorded re-election.

The thirty-sixth annual sessions of the Oregon State Horticultural Society were held at Forest Grove, December 1, 2 and 3. Vegetable as well as fruit growers in goodly numbers were present. Each session was marked by helpful and informative talks, papers and discussions. Experts of both fruit growing and gardening industries were speakers.

These officers were elected for the ensuing year: D. W. Johnson, president, Corvallis; E. A. Rueter, vice-president, Forest Grove; C. D. Minton, secretary-treasurer, Forest Grove; Senator C. L. McNary, trustee.

Our readers may be assured that they will be given the cream of the papers and such matters coming before these meetings as have value to them.

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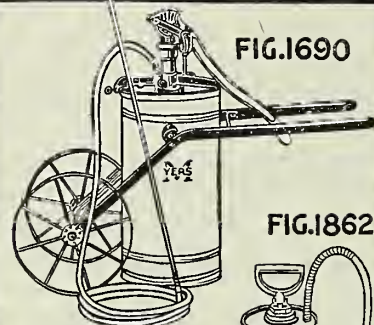


FIG. 1690

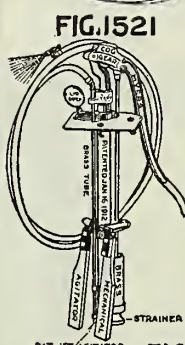


FIG. 1521

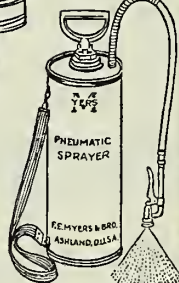


FIG. 1862

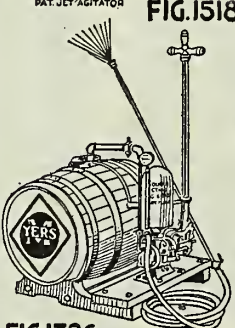


FIG. 1726



FIG. 1736

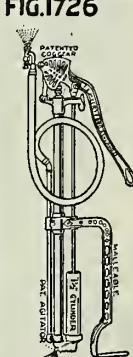


FIG. 1795

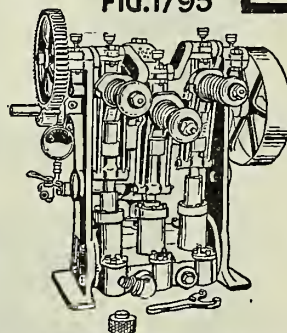


FIG. 1823

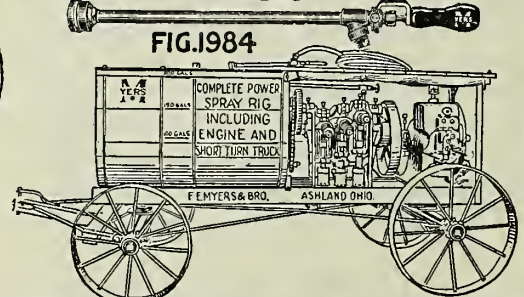


FIG. 1984

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COLD WATER PAINTING
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For fast, thorough, economical spraying use MYERS SPRAY PUMPS. You may have but a few trees, vines or bushes—your garden may be but a small one—your orchard or vineyard may be of limited acreage—or you may be an extensive grower of fruits and vegetables with thousands of trees and plants under cultivation. It matters not which of these you are, or what your spraying needs may be, they can all be successfully filled with a proven and guaranteed MYERS BUCKET, BARREL or POWER SPRAY PUMP of such style, size and capacity as will exactly meet your requirements.

Remember, much of the success of spraying depends on the spray pump—remember the quality of spray pumps differs just as it does in other implements. You can, no doubt, buy spray pumps at lower prices than asked for the MYERS, but in doing so you may be paying for light weight, under-sized, cheaply equipped pumps that will last but a short time and perhaps disappoint you with the results produced.

You take no chances of this nature when you purchase and use MYERS SPRAY PUMPS, NOZZLES and ACCESSORIES—regardless of style, size or equipment, Myers Spray Pumps are of a uniform standard, all being guaranteed for efficient and long time service if properly used and cared for. They throw a powerful penetrating spray, and are equally successful for whitewashing, painting, disinfecting and similar work.

It requires a 64 page Catalog to show the entire line of MYERS SPRAY PUMPS, AND SPRAYING ACCESSORIES, and the new edition for 1922 is just off the press. If interested in better spraying and better spray pumps, write us today for a free copy of this Catalog.

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Pacific Northwest
Distributors

Mitchell
LEWIS & STAYER CO.

Spokane, Wash.
Portland, Oregon

BUY FROM THE LOCAL MITCHELL DEALER

Boxed Apple Situation

(Continued from page 13)

year in effecting a most extraordinary distribution of northwestern apples and have sold and shipped fruit in carload lots to literally hundreds of markets which have never used boxed apples in car lots before, and despite herculean efforts to avoid congestion at gateways and large terminal markets, the fact remains that the pressure of supplies on nearly all of the larger markets during the last half of October and throughout the month of November was so great that prices declined in proportion to the degree of the pressure, and prices ruling in recent weeks have been 25c to 50c per box lower than opening prices at the beginning of the season.

The service of refrigerator steamships between Puget Sound and Columbia River points to Europe has been expanded by the addition of several lines and comparatively large quantities of fruit, particularly the varieties and sizes indicated in the foreign markets, have been exported.

BEFORE the Panama Canal route will afford substantial relief to the transportation difficulties of this industry, the following points will have to be worked out:

1—Sufficiently low freight rate to permit absorption of rail freight from initial producing points to Pacific seaboard, and absorption of short haul rates from Atlantic terminals inland for a reasonable distance.

2—Frequent and regular sailings.

3—Convenient terminals at Atlantic ports of discharge.

4—An arrangement whereby intercoastal steamers will stop in at a number of Atlantic and Gulf ports so as to effect at least a seaboard distribution of the cargoes.

It is still too early to show with certainty how the gross returns to the growers for their 1921 apples will compare with the returns a year ago. A few of the earlier varieties have been cleared and from these returns it would appear that the actual dollar returns to the growers this year per box of apples will average higher than last. As the cost of production of this year's crop is probably not over 50 per cent of last year, this means that the growers this year will make a reasonable profit on their apples, whereas last year, with few exceptions, the returns represented a loss under the actual cost of production.

The season has been very strikingly characterized by an unprecedentedly rapid liquidation of the crop. The Northwestern Fruit Exchange, with which the writer is connected, returned to its shippers during the month of October, \$801,773.11, which compares with \$311,348.70 during the same period in 1920. During the first 15 days of November, the same organization returned to the same group of shippers, sales proceeds amounting to \$814,-

158.52, making a total for the 6 weeks between October 1 to November 15, of \$1,-615,931.63.

This rapid flow of money back to the producing districts has resulted in extensive liquidation of bank loans and mercantile credits, at least on the part of those growers and growers' organizations that have pursued the same policy of speeding up the shipments and converting the crop into cash that has been followed by the organization referred to.

Practically all of the early and intermediate varieties of apples are far along to complete liquidation. This leaves yet to be sold only Winesaps and a few minor, hard, late-keeping varieties.

Inasmuch as the supplies of latekeeping, barreled apples produced in the eastern districts are exceedingly light, the markets of this country will be, to a very large extent, dependent for their late winter and spring supplies upon storage stocks of Winesaps and similar varieties in the Northwest. Thus these varieties occupy an exceedingly strong technical position and there is every reason to believe that these stocks will eventually be sold at strong prices and returns therefrom be highly profitable to the growers.

Having already turned such a very large quantity of fruit into cash, which has enabled them to pay their debts and put them in a comfortable financial position, the

growers can now carry the remaining stock without undue strain.

Treat Your Soil with Toro Brand Agricultural Sulphur



Improves alkali soil, transforms latent potash and phosphates into available plant foods.

Prevents wire worms, eelworms or nematodes, smutty grain, ants and potato scab. 220 lbs. per acre has increased crops up to 500%.

For dry dusting, use "ANCHOR" Brand Velvet Flowers of Sulphur.

For Lime Sulphur Solution, use DIAMOND "S" Brand Refined Flour Sulphur. Sold by leading dealers.

Write for circulars Nos. 6, 8, and 10, price-list and samples. State for what purpose sulphur is to be used.

SAN FRANCISCO SULPHUR CO.
624 California St. San Francisco, Cal.

Apples, Pears, Peaches Potatoes, Onions

and all kinds of Fruit and
Produce Bought for Cash..

Address us as to what you
have to offer.

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Labels
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Stiff Boxes Plain and Fancy

OREGON

AT THE annual meeting of the stockholders of the Berry Growers' Packing Company and the Co-operative Berry Growers, held in Gresham December 13, capital stock of the packing company was increased from \$15,000 to \$25,000. This company distributed 8 per cent dividend checks at the time.

COLUMBIA county last year showed an increase of 400 per cent in berry acreage, according to A. L. Morris of Warrens. The county now has practically 700 acres in berries, he stated.

THE steamer *Nebraska*, which sailed from Portland early in December, carried away the last of the apple crop produced in the Willamette Valley. The tonnage handled by the association amounted to 131 cars. This was 75 per cent of the valley's unusually light crop.

W. A. MAKEPEACE, one of the biggest cranberry growers in America, recently visited the bogs of Clatsop county. He represents the Makepeace family of Cape Cod, Mass., owner of 2000 acres of cranberry lands in Massachusetts and New Jersey.

ASHLAND held a big winter fair last month in which horticultural products had an outstanding place. The apple display embraced 200 boxes of blue-ribbon class.

THE Hood River Apple Vinegar Company has increased its capital stock to \$250,000 for the purpose of expanding its plant. A new development is the utilization of all pomace in the making of pectin, for which it reports a demand that is astonishing.

SIXTEEN cars of apples were shipped from Milton to points in Texas and Kansas by W. C. Hobson. The apples were Winesaps, Romes, Jonathans, Delicious and Black Beauties. Mr. Hobson realized \$1.50 a box for them f. o. b. Production on his own orchards for the season amounted to 18,000 boxes.

IN THE season just ended the Sherwood cannery packed 180 tons of fruit. There were 54 tons of blackberries, 40 of prunes, 18 of cherries, 19 of strawberries, 17 of loganberries, eight of raspberries and six of pears.

FOUR years ago Math Theis of Woodburn planted 1000 gooseberry bushes on less than an acre of ground. Last season the family sold berries to the amount of \$190.40, besides giving quantities to relatives and canning a lot for home consumption. So well pleased are they with results that more bushes will be set out this year.

BRUCE CUNNINGHAM has become known as the "loganberry king" of the Willamette Valley. He has 45 acres in bearing and 60 acres which he planted last spring. During the fall he prepared 40 acres more to be put into logans.

FROM 4 1-2 acres B. T. Haley, Crockett fruit man, marketed 5185 boxes of packed apples. His crop was as good in quality as in quantity.

PRUNING week was observed in Jackson county December 19-24 with a meeting in Medford, followed by demonstrations at Talent, Ashland, Central Point and other localities.

BECAUSE of the snowstorm, apple shipments from Hood River were held up for more than a week. The storm was not accompanied by very low temperatures and there was no loss of fruit already loaded, even though heaters were not brought into use. As soon as the weather cleared shipments of apples at the rate of 30 cars a day were made.

WASHINGTON

THE twelfth annual convention of the Western Washington Horticultural Association will be held at Mount Vernon, commencing February 8 and lasting four days. This association is primarily the educational organization of the berry growers of western Washington. On account of the importance of the potato and seed crops of Skagit county the program committee plans to have sessions devoted to these two crops.

COWLITZ county now has a berry association, one having been formed at Kelso last month. It is known as the Cowlitz County Berry Growers' Association. Directors elected to represent the various districts are: M. V. Edmonds, Kelso; I. C. Chuinard, Ostrander; G. E. McCoy, Castle Rock; E. H. Stewart, Kalama; J. W. L. Cheever, Woodland.

AN EXHIBIT of 30 boxes of selected extra fancy apples were sent from Yakima for display at the annual convention of the American Pomological Society, at Toledo, O. The display was sent by the Yakima Fruit Growers' Association, the Horticultural Union and the Winthrop Orchards. Romes, Winesaps, Staymens, Yellow Newtowns and Delicious were included in the exhibit.

ORCHARDS of the Wenatchee Red Apple Company at Quincy, aggregating 220 acres with 160 acres in full bearing, have been sold to a group of purchasers represented by G. A. Loudonback, for a reported price of about \$125,000. Mr. Loudonback has been manager for the Associated Fruit Company of Chicago at Cashmere. It is intended to subdivide the tract and Staymens.

ABOUT 300 acres of orchard formerly owned by the Moses Coulee Fruit Land Company, on which mortgages had been foreclosed, has been purchased by the Wells & Wells Fruit Company. The land was originally sold in small tracts and planted to orchards about 14 years ago and the difficulties arose when many of the purchasers were unable to continue their payments.

AN ADDITION to the Spokane plant of the Inland Products Company is under construction. This will provide for four new lines—the making of jams, jellies, preserves and pickles—next summer, with an addition of 50 workers to the usual force of 100. An expert will be brought from the east to handle the new departments. The new building and its equipment will be in shape to handle the earlier soft fruits and vegetables next spring.

IT IS estimated that Washington's cranberry crop two or three years hence will be worth \$500,000 annually. This year's crop, produced largely in the bogs of the Ilwaco district, Pacific county, had a value of approximately \$250,000.

WITH compliments of Hugh C. Wallace, former American ambassador to France, 20 boxes of specially selected apples were forwarded



Golden Winesap

A Wonderful Apple

It has the juicy tartness of the Jonathan, the meatiness of the old Winesap, the beauty of the Winter Banana, the deep gold color of the Grimes and the keeping qualities of the good old Ben Davis. Strong grower, healthy and vigorous. Originated in Utah and should be hardy everywhere. Bears young and very profusely.

True Delicious Apple

This is the ideal farm apple. Large fruit, beautiful dark red, quality unsurpassed. Flavor sweet, slightly touched with acid, comes out of storage in perfect condition.

Campbell's Early Grape

A new variety, vigorous growth, very hardy, very early and an abundant bearer. Good shipper; keeps for weeks after ripening.

Perfection Currant

In our entire experience this is the best bearer, the largest, sweetest and easiest to pick. Rich, mild flavor, less acid and few seeds.

Low Prices Direct to You

All kinds of Fruit Trees, Plants and Shrubs, Vegetable, Flower and Field Seeds, etc., of the best quality, at very low prices. Get our Big Free Illustrated Catalog and prices before you buy.

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COVENT GARDEN, LONDON

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Specialists in Apples and Pears

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by express last month from Yakima to prominent men and women of Paris. Mr. Wallace selected beautifully colored Winesaps, running 100 to 113 to the box and these were carefully packed for the long journey.

▲ ▲ ▲

THE canning factory of Younglove & Co., at Sunnyside, will continue in operation until about the middle of this month and is expected to handle 1000 tons of culls. The plant canned 150 tons of pears.

CALIFORNIA

AN IMPORTANT deal in vineyard and deciduous fruit land was recently concluded at Sacramento, when the Earl Fruit Company purchased 10 tracts from the Western Fruit Company and Mr. and Mrs. Henry L. Klensorge at about \$200,000. Mr. Klensorge is president of the Western Fruit Company. It is said that the Earl company intends to make further purchases in the district.

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IT IS announced from San Francisco that arrangements have been completed whereby a large amount of fruit and vegetables to be furnished each year by the Fruit Growers of California, Inc., to Hunt Brothers' Packing Company will be put out by this company on a co-operative basis. The growers' association has heretofore had no facilities for canning any of its products and the new arrangement is expected to insure its members some additional profits.

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W. J. CHARLESWORTH, for the past two years manager of the California Fruit Distributors, has resigned that position. He announced that he expects to remain in the fruit industry in Sacramento.

▲ ▲ ▲

PRACTICALLY final estimates of the California Prune and Apricot Growers, Inc., on the season's crop of the state, placed the total at 150,000,000 pounds, or about 10,000,000 pounds more than given in earlier estimates.

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AMONG its other records in fruit production this state is preeminent in output of peaches, providing 38 per cent of the national crop. The 1921 peach crop of the state has been placed at 13,800,000 bushels, which enriched the growers to the extent of about \$26,220,000. This showing is about twice that of Georgia, which ranks second in production of peaches.

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DIRECTORS of the California Peach and Fig Growers have had under consideration a general reduction of wages, but are not expected to take definite action until early this year.

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A SERIES of pruning demonstrations were conducted in the Santa Clara valley the latter part of November by Professor A. H. Hendrickson of the deciduous fruit station at Mountain View.

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RETURNING from a trip through Oregon and Washington, W. N. Shelley, representative of the Sebastopol Apple Growers' Union, reported to his association that it was receiving better prices for apples than growers in the sister states.

▲ ▲ ▲

APPLE shipments from the Watsonville district totaled 2433 cars by about December 1 and it was estimated that 500 cars remained to be moved. Of the total 729 cars had been shipped east and 1704 cars to California points.

IDAHO

DESPITE the fact that he is 77 years "young," E. F. Stephens of Nampa, finds that looking after more than 200 acres of orchards, of which he owns approximately one-half, cannot fully occupy his time. Recently he acquired a half interest in 75 acres of fine, "frost-proof" orchard

land in the Central Cove district, to be planted at once. Spare moments he devotes to the selling of trees he makes it a point to supply at wholesale prices. He has placed more than two carloads and says he will make it three.

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THE Oregon Packing Company, at Lewiston, handled 1350 tons of apples during the season just closed, according to Manager William Crapo. The plant handled only cherries and apples the past year. Approximately \$100,000 was paid out for fruit. An average of 185 persons were employed, at an operating expense of \$32,000.

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FARM and orchard management was one of the leading topics at the farmers' institute, conducted at Emmett last month under supervision of four specialists of the University of Idaho extension division.

▲ ▲ ▲

J. J. STUTZ, grower of Dudley, Kootenai county, carried home the big prizes from the show of the Pacific Northwest Potato Growers' Association at Spokane last month, with 20 splendid Netted Gems.

A. F. TALBOT, South Caldwell, has 100 acres of apple orchard from which he reports crops each season that have brought enough from each acre to buy an additional acre of orchard land. He says he would be purchasing those additional acres if his neighbors were only willing to sell.



YOU'LL be surprised at the little cost at which you can make your house look distinctive. The window cut accompanying this ad, is known as the "Queen Anne" design.

For an additional \$15 or \$20 your whole house can have this classy window. Before you finish building send for our catalog. Rovig, 2227 First Avenue South, Seattle. "Better Millwork."



THE same uniform richness that makes Ghirardelli's so "smooth" in the cup makes it work smoothly in the oven. Besides, it saves fussing with bar chocolate—it's already ground, ready for you! At your grocer's—in ½ lb., 1 lb. and 3 lb. cans.

Say "Gear-ar-delly"

D. GHIRARDELLI CO.

Since 1852

San Francisco

Send for new recipe booklet

GHIRARDELLI'S

Ground Chocolate

With the Poultry

NEW BREED HERALDED

IT IS HIGHLY probable that readers of poultry literature will soon be hearing quite a little about a new general-purpose breed of chickens. This is particularly likely because the new breed was developed under government supervision and the government has already given rather extensive publicity for it.

It was with the aim of developing a white fowl, with red ear-lobes and producing a white egg, that the breeding experiments which have resulted in bringing forth the Lamona chicken were undertaken. The name, incidentally, honors the man who conceived and helped carry through the project—Harry M. Lamon, senior poultryman of the Bureau of Animal Husbandry. With the assistance of other federal poultrymen, the new fowl was developed at the experiment station at Beltsville, Md.

The new fowl possesses characteristics of great merit, say the government men. It has sufficient size to fit the demands of the great number of consumers who want a bird weighing 4 to 6 pounds. The body is long and of good depth, giving a large amount of the highly desirable breast meat, and at the same time large capacity for the reproductive organs.

The Lamona fowl is larger than the Leghorn, approaching in size fowls of the American class. It is white, which is the most desirable from the marketmen's viewpoint. It has a comb and wattles of medium size, which are not easily frosted, thereby checking development or egg production. It is well feathered, which makes it resistant to sudden changes in temperature. These points combine to make it an exceptionally good winter layer of white eggs.

BREEDING PENS

WHILE it may be a bit early in the higher altitudes it is none too soon for poultry raisers of the Pacific Coast valleys who propose to do their own hatching, to give attention to mating for the purpose of obtaining the finest chicks possible. Too many of the smaller poultry producers are wont to buy eggs from someone else, or just take the general run of their own eggs for hatching purposes. It is a comparatively simple matter to mate up the better fowls of the flock and put them to producing eggs for hatching, in a separate pen. Not to do this, but merely to use the general run of fertile eggs practically insures deterioration for the flock.

THOSE who may be planning on expanding their incubator equipment, or on using an incubator for the first time during the coming hatching season, can profitably devote a few hours' time to consideration of makes. Performance records as reported by the neighbors and poultry experts are the best guide.

THERE is far more to the suggestion that drinking water for the hens be warmed when freezing temperatures prevail than the humanitarian appeal. There is serious loss of bodily heat from the hen that must drink ice-cold water, and this energy must be made up in some other way or its loss will mean fewer eggs. Again, the hen will drink more copiously—an important aid to egg production—if the water is warm.

WHILE chilling temperatures prevail eggs intended for hatching must not be left too long in the nests. They should be gathered two or three times a day at least.

THOSE who have purebred fowls should take enough pride in their best birds to exhibit them at some of the winter shows.

MANY excellent authorities urge that only one-third the daily rations be given hens in the morning, the two-thirds to be fed in the evening.

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NOW is the time when it requires most planning and foresight to provide ample green food-stuffs for the laying hens.

Our Inquiry Department

WITH reference to the article in your December, 1920, issue on the para dichlorobenzene treatment for peach tree borer, I should be glad to know from whom this chemical can be obtained and the approximate cost this year, as the price has doubtless been reduced since the article was written.—F. H. Keane, B. C.

We are sending you the name of a wholesale drug firm which will supply your druggist, as it does not sell at retail. By the pound the price is quoted to us as \$1, but should be somewhat less in large quantities.

In case you or others who read this wish to obtain the latest information on the use of para dichlorobenzene it may be obtained by sending for Farmers' Bulletin No. 1246, to the Chief of Division of Publications, U. S. Department of Agriculture, Washington, D. C.

Arrow Carbolineum

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Protects poultry against vermin—Preserves wood against decay. When you buy Carbolineum be sure you get Carbolineum and not something called just as good. Write for prices and circulars.

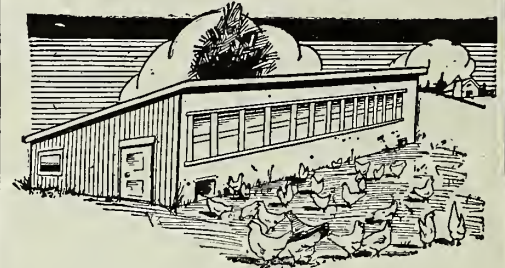
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Marketing News of Interest

UP TO December 10 there had been shipped in the United States 66,000 cars of apples, compared with 81,000 cars by the same date in 1920. A decrease of over 32,000 cars from the barrel apple sections was about half counter-balanced by a gain of over 16,000 cars from the northwestern boxed apple states.

Washington, as usual, is the leading state, having moved over one-half the shipments of boxed apples and over one-third of all shipments. Idaho,



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Oregon and California had shipped about 5000 cars. The increasing movement from Idaho has become a feature of recent seasons. The Gem state has already about doubled its carlot output of last season.

Northwestern box apples, says a government report, have been holding to much more uniform prices from season to season than others. Extra fancy grades of leading varieties, like Jonathan, Spitzenberg and Winesap, it is cited, have commonly sold in eastern markets around \$3 a box seldom at more than \$4 during the early part of the season or less than \$2, as compared with extremes of \$1.50 to \$10 a barrel for Baldwins.

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WHILE apple markets generally have been rather dull in recent weeks, local movement of a holiday character has been good, with demand chiefly for the better grades.

The general range of New York prices to jobbers of northwestern apples, just before Christmas, follows:

Spitzenbergs, extra large to very large \$3 to 3.25, small to medium \$2.50 to 2.75, fancy large to very large \$2.60 to 2.75, small to medium \$2.25 to 2.50, C grade medium, mostly \$2.25; Romes, extra fancy, medium to large, \$2.50 to 2.75, small, \$2.25 to 2.40, fancy medium to large, \$2.35 to 2.50, small, mostly \$2.25. Delicious, extra fancy, large to very large, \$4 to 4.25, few high as \$4.50, medium \$3 to 3.50, fancy medium \$2.50 to 2.75, C grade, small, \$2 to 2.25. Newtowns, extra fancy, large to very large, \$2.75 to \$3; few \$3.25; medium mostly, \$2.50; fancy medium to large, \$2.50 to 2.75; few very large, \$3; small, mostly \$2.25. Ortleys, extra fancy, car run, \$2.65; fancy, car run, \$2.50; C grade, car run, \$2.25. Staymens, fancy, car run, \$2.25; C grade, car run, \$2.

▲ ▲ ▲

ACCORDING to W. T. Jenks, manager of the Willamette Valley Prune Association, there is every prospect that the prune market will continue strong and may possibly advance. He believes that the season's crop from western states will be entirely cleaned up by next June, leaving an open market for the 1922 crop. Prospects for a heavy crop in 1922 are excellent and he predicts a prosperous year for the growers.

▲ ▲ ▲

APPLE growers were elated early last month over a new reduced rate put into effect for apple shipments by refrigerated steamship from the Pacific Northwest to Atlantic Coast points. The new rate is 40 cents a box, to which freight from interior points and other charges add an average of about 22 cents a box. This average total of 62 cents is to be compared, it is said, with a charge of 75 cents by rail, or 87 cents if the rail lines put into effect rate increases announced to become effective this month.

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Booth & Co., have completed construction of a fruit juice plant at Centerville, Cal.

Bees and Beekeeping

Edited by AMOS BURHANS

A READER who has heard of the splendid qualities of pure bred Italian bees asks me how he can Italianize his colonies. It is not much of a job.

Get a young, purely mated Italian queen. She may be had of a reputable queen breeder for \$1 to \$3. My experience is that July to September is the easiest, cheapest and best time to requeen and Italianize your hives. This is especially true if there is anything of a honey flow in your locality. The removing of the old queen from a colony and the introduction of a purely mated Italian is all there is to Italianizing a colony.

Bees accept a new queen readily during a honey flow. If there is no flow of nectar I usually feed the colony into which I put a new queen, a few days before her introduction. A half pint of sugar syrup made half and half by bulk, boiling water and cane sugar, is the only feed necessary. Bees that are storing nectar, natural or artificial, accept a new queen most readily.

When your new queen arrives she will be in a little wood and wire cloth cage, already to be introduced. Find the old queen. She will probably be a black one if she is like the majority of bees throughout the country and her bees will be nervous when you open their hive, running over the combs pretty fussily. To partly stop this, get your smoker ready. Fill it with old rotted apple wood or hickory or planer shavings or excelsior. Clean old rags or old burlap will do. But don't use greasy waste or greasy rags unless you want to irritate the bees.

Blow a little smoke in at the entrance of the hive. Pound on the top of it a couple of smart blows—until the bees within begin to set up a roaring—which means they are filling up on honey. They will not run on the combs when doing this and the queen will be easier to find. If you can locate her on a frame of comb or elsewhere, pick her up and pinch her head off. If she cannot be found this way, put a queen excluder on the front of the hive and shake the bees in front. They will all run through the excluder into the hive and the queen will eventually be found outside.

THEN put the good young queen in her cage across the top of the frames, as per the directions that accompany her. In a couple of days open the hive and cut out all queen cells and tear the pasteboard off the candy hole so that the bees can eat out. Be sure to locate and destroy all queen cells as the bees will try to rear a queen as long as the new one has not yet been introduced to them. Do not disturb them again for five days or a week, but keep feeding the colony if there is no honey flow. Sometimes any disturbances of the colony within a few days after the new queen gets out of her cage will be laid to her and her bees will ball her. They may kill her when doing this so let the colony alone for a while after fixing the cage so the bees can eat her out.

In 21 days from the time she begins laying the new queen's bees will emerge from their cells and gradually, as the older bees of the former queen die, the colony will become entirely purebred Italian. The queen, having been mated for life in the queen breeder's yards where she was reared, her eggs will always produce purebred Italian bees. Italian bees are most always gentler than black or German bees, are better honey gatherers, larger, and more easily handled.



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CORY THORNLESS BLACKBERRY—Best of all; extra large, vigorous plants ready; satisfaction guaranteed; illustrated price list. Write Chas. E. Mortenson, Lodi, California.

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BOOKING ORDERS now for spring delivery. Virgins, golden and leather-color Italian queens; bees by the pound and nuclei. Write for prices; circular free. A. J. Pinard, 440 No. Sixth St., San Jose, Calif.

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FOR SALE—Pure Bred S. C. and R. C. Reds and Barred Rocks from good laying strain. I don't pay express. Cockerels \$3.50, Pullets \$2.50 10% discount on dozen. W. A. Rowe, American Falls, Idaho.

WHITE WANDOTTES—Egg Bred Males. Size and quality backed by high official records. A. Gronewald, The Dalles, Oregon.

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CHOICE Mammoth Bronze Turkey Toms, \$10. Mrs. Amelia Reimers, Eagle, Idaho.

PURE BRED Sicilian Buttercup cockerels, \$5 each. Charles Carland, Route 2, St. Maries, Idaho.

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FOR SALE—Ideal Apple Orchard, 27 acres in the property, Delicious, Rome, Winesap, Stayman, 1000 trees, principally 6 to 8 years old, commencing to bear, also peaches, grapes and commercial raspberries; ideal fruit soil, gently sloping northern exposure, abundant springs and branches, all necessary buildings; right at railroad station. Wonderful year-round climate, beautiful mountain scenery, purest water. Price \$7,500 of which \$5,000 must be cash. Bolling Hall, Waynesville, N. C.

FOR SALE—62-acre farm, 48 miles south of Portland; running water; horses, cattle, machinery and furniture. A. H. Koppang, Silverton, Ore.

WANTED—To hear from owner of good ranch for sale. State cash price, full particulars. D. F. Bush, Minneapolis, Minn.

FOR SALE—Irrigated Apple Orchard, Idaho: Two 10-acre tracts; water rights; tenth year. Estimate '21, 9000 boxes; standard commercial varieties. Good community with churches, schools, and railroad facilities. Convenient to state highway. A good proposition for relatives or friends. Other interests compel non-resident owner to sell; \$7000 each; terms. Address W. M., care Better Fruit.

WANT TO HEAR from owner having farm for sale; give particulars and lowest price. John J. Black, 197th street, Chippewa Falls, Wisconsin.

TO LEASE—35 to 200 acres of first class fruit land on shares. Martin Bros., Brownsville, Ore.

MISCELLANEOUS

DON'T EXPERIMENT—It costs money. For \$20 you can get my blue prints. "Dencer Drier best by test." The Dencer Drier will shorten time of drying and save money on fuel. It turns out a superior product. It costs less to dry per ton, and less to build than any other drier of same capacity. I use only one stove for six tunnels. Each tunnel holds 136 half-bushel trays. My driers have been a pronounced success for five years. Edward Dencer, Rt. 3, Box 158, Salem, Oregon. Phone 88 F2.

TRACTOR BARGAINS—Cletrac "W," only demonstrated, \$1250; Cletrac "W" rebuilt, good as new, \$1000; Cleveland model "H," never used, \$1100; Cleveland "H," slightly used, snap at \$750; Oldsmar Garden Tractor demonstrator, \$390. O. V. Bradley, 425 E. Morrison St., Portland, Oregon.

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HONEY—Finest table honey: "Western Blossom" brand, in 6-pound tin can, postpaid for only \$1.25 up to fourth zone; absolutely unadulterated—just as the bees made it. Spokane Seed Co. 906 First Ave., Spokane Wash.

CLEAN VEATCH and grey seed oats for sale. W. W. Harris, Oregon City, Oregon.

PURE EXTRACTED HONEY—\$7.50 per five-gallon can; two cans, \$14.00. Everett Sauter, Touchet, Wash.

HOMESPUN TOBACCO—Chewing, 10 pounds, \$2.50; 20 pounds, \$4; smoking, 10 pounds, \$2; 20 pounds, \$3.50. Farmers' Union, Mayfield, Ky.

HONEY—A-1 extracted honey, 10-pound pail, \$1.70, postage paid to fourth zone, cash with order. W. C. Forcher, Grand View, Idaho.

TOBACCO—1919 leaf best chewing, three pounds, \$1; ten, \$3; chewing and smoking, ten, \$2.50; regular smoking, ten, \$1.50; fifty, \$6; satisfaction guaranteed. Producers' Distributors, Murray, Ky.

FOR SALE—Fresh extracted honey: five-gallon can, \$7.50; two cans, \$14.50; six ten-pound pails, \$8.50; twelve five-pound pails, \$9.00. A. L. Traner, Touchet, Wash.

HONEY—Pure, First Quality Yakima Valley alfalfa, sweet clover honey; direct from producer. Send for circular and prices. Oliver Sires, Wapato, Washington.

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